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UNIVERSITY



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The School of Medicine

ANNOUNCEMENTS FOR 1955-1956

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DUKE UNIVERSITY

SCHOOL OF MEDICINE

ANNOUNCEMENTS FOR 1955-1956



The School of Medicine

BULLETIN
OF
DUKE UNIVERSITY
THE SCHOOL OF MEDICINE



1954-1955

ANNOUNCEMENTS FOR 1955-1956

DURHAM, NORTH CAROLINA
1954

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School of Medicine Calendar

1955-1956

1955

January	3	Monday—Registration of students, and Winter Quarter begins.
February	5	Saturday—First half of the year for first-year students ends.
February	7	Monday—Second half of the year for first-year students begins.
March	19	Saturday—Winter Quarter ends.
March	28	Monday—Registration of students, and Spring Quarter begins.
April	9	Saturday—Spring vacation for first-year students begins.
April	11	Monday—Easter Monday: a holiday.
April	17	Sunday—Spring vacation for first-year students ends.
June	6	Monday—Commencement Exercises.
June	11	Saturday—Spring Quarter ends.
July	4	Monday—Independence Day: a holiday.
July	5	Tuesday—Registration of students, and Summer Quarter begins.
September	5	Monday—Labor Day: a holiday.
September	17	Saturday—Summer Quarter ends.
October	3	Monday—Registration of students, and Autumn Quarter begins.
November	24	Thursday—Thanksgiving: a holiday.
December	11	Sunday—Founder's Day.
December	17	Saturday—Autumn Quarter ends.

1956

January	3	Tuesday—Registration of students, and Winter Quarter begins.
February	4	Saturday—First half of the year for first-year students ends.
February	6	Monday—Second half of the year for first-year students begins.
March	17	Saturday—Winter Quarter ends.
March	26	Monday—Registration of students, and Spring Quarter begins.
April	2	Monday—Easter Monday: a holiday.
April	14	Saturday—Spring vacation for first-year students begins.
April	23	Monday—Spring vacation ends for first-year students.
June	4	Monday—Commencement Exercises.
June	9	Saturday—Spring Quarter ends.
July	2	Monday—Registration of students, and Summer Quarter begins.
July	4	Wednesday—Independence Day.
September	3	Monday—Labor Day: a holiday.
September	15	Saturday—Summer Quarter ends.
October	1	Monday—Registration of students and Autumn Quarter begins.
November	22	Thursday—Thanksgiving: a holiday.
December	11	Tuesday—Founder's Day.
December	15	Saturday—Autumn Quarter ends.

Officers of Administration

General Administration

ARTHUR HOLLIS EDENS, Ph.D., LL.D. <i>President of the University</i>	West Campus
WILLIAM HANE WANNAMAKER, A.M., Litt.D. <i>Vice-Chancellor of the University</i>	West Campus
PAUL MAGNUS GROSS, Ph.D. <i>Vice-President in the Division of Education</i>	Hope Valley
CHARLES EDWARD JORDAN, A.B., LL.D. <i>Vice-President in the Division of Public Relations and Secretary of the University</i>	813 Vickers Avenue
HERBERT JAMES HERRING, M.A., LL.D. <i>Vice-President in the Division of Student Life and Dean of Trinity College</i>	Myrtle Drive
ALFRED SMITH BROWER, A.B. <i>Business Manager and Comptroller</i>	614 West Campus
CHARLES BLACKWELL MARKHAM, A.M. <i>Treasurer of the University</i>	204 Dillard Street

The School of Medicine

WILBURT C. DAVISON, M.D., D.Sc., LL.D., <i>Dean.</i>
KENNETH E. PENROD, Ph.D., <i>Assistant Dean.</i>
MRS. HELEN M. THOMAS, <i>Recorder.</i>
MRS. F. H. SWETT, <i>Student Advisor.</i>
MR. F. V. ALTVATER, A.M., <i>Consultant to the Dean.</i>

Committee on Health Affairs

W. C. DAVISON, James B. Duke Professor of Pediatrics, Dean of the School of Medicine and Chairman of the Committee on Health Affairs.
—, Dean of the School of Nursing.
ROSS PORTER, Professor of Hospital Administration and Superintendent of Duke Hospital.
F. VERNON ALTVATER, Consultant to the Dean.
E. W. BUSSE, Professor of Psychiatry.
BAYARD CARTER, Professor of Obstetrics and Gynecology.
LELIA R. CLARK, Professor of Nursing Service.
W. D. FORBUS, Professor of Pathology.
F. G. HALL, Professor of Physiology and Pharmacology.
PHILIP HANDLER, Professor of Biochemistry.
JEROME S. HARRIS, Professor of Pediatrics.

DERYL HART, *Professor of Surgery.*

ANN JACOBANSKY, *Assistant Professor of Nursing in Charge of Nursing Education.*

J. E. MARKEE, *James B. Duke Professor of Anatomy.*

K. E. PENROD, *Associate Professor of Physiology and Pharmacology and Assistant Dean of the School of Medicine.*

R. J. REEVES, *Professor of Radiology.*

D. T. SMITH, *James B. Duke Professor of Bacteriology.*

E. A. STEAD, JR., *Florence McAlister Professor of Medicine.*

Four other members of the faculty holding the rank of Assistant Professor or above, by alphabetical rotation.

Faculty of the School of Medicine

- D. K. ADAMS (1931), * Ph.D., *Consultant in Psychiatry*.
 ANIBAL ADAN (1954), M.D., *Assistant in Anesthesiology*.
 TROGLER ADKINS (1938), M.D., *Instructor in Obstetrics and Gynecology*.
 SAM AGNELLO (1941), A.B., *Technical Instructor in Anatomy*.
 JOHN W. ALLGOOD (1951), M.D., *Instructor in Medicine*.
 FRANKLIN E. ALTANY (1953), M.D., *Instructor in Surgery*.
 EDWIN P. ALYEA (1930), M.D., *Professor of Urology*.
 RAUL AMENABA (1953), M.D., *Assistant in Orthopaedics*.
 SARA HARRIETTE AMEY (1947), A.B., *Instructor in Social Service*.
 WILLIAM BANKS ANDERSON (1930), M.D., *Professor of Ophthalmology*.
 WILLIAM G. ANLYAN (1950), M.D., *Assistant Professor of Surgery*.
 JOHN ARCHDEACON (1954), M.D., *Assistant in Orthopaedics*.
 JAY ARENA (1933), M.D., *Associate Professor of Pediatrics*.
 RALPH A. ARNOLD (1946), M.D., *Associate Professor of Otolaryngology and Ophthalmology*.
 THEODORE W. ATWOOD (1934), D.M.S., *Associate in Dentistry*.
 EVELYN E. AULD (1950), R.N., M.A.A.N.A., *Instructor in Anesthesiology*.
 HOWARD AUSERMAN (1953), M.D., *Associate Professor of Anesthesiology*.
 ROGER D. BAKER (1930), M.D., *Professor of Pathology*.
 LENOX BAKER (1937), M.D., *Professor of Orthopaedics*.
 MARIE BALDWIN (1949), M.D., *Instructor in Psychiatry*.
 S. W. BAREFOOT (1946), M.D., *Instructor in Medicine*.
 JUNE BARKER (1952), M.S., *Instructor in Physiology*.
 ROBERT H. BARNES (1953), M.D., *Assistant Professor of Psychiatry*.
 BENJAMIN BARRERA (1952), M.D., *Visiting Professor of Pathology*.
 WOODROW BATTEN (1951), † M.D., *Instructor in Medicine*.
 GEORGE J. BAYLIN (1939), M.D., *Professor of Radiology, Associate in Anatomy*.
 DOROTHY BEARD (1938), R.N., *Associate in Surgery*.
 JOSEPH W. BEARD (1937), M.D., *Professor of Surgery, Assistant Professor of Virology*.
 R. FREDERICK BECKER (1951), Ph.D., *Associate Professor of Anatomy*.
 WILLIAM W. BECKER, JR. (1954), M.D., *Instructor in Ophthalmology*.
 ERIC G. BELL (1954), M.D., *Assistant in Orthopaedics*.
 ROBERT L. BENNETT (1946), M.D., *Lecturer in Physical Medicine*.
 WALTER BENSON (1952), M.D., *Associate in Pathology, Assistant Pathologist*.
 RODRIGO D. BERNAL (1954), M.D., *Assistant in Anesthesiology*.
 FREDERICK BERNHEIM (1930), Ph.D., *Professor of Pharmacology*.
 MARY L. C. BERNHEIM (1930), Ph.D., *Associate Professor of Biochemistry*.
 ANTONIO BERRIOS (1950), M.D., *Assistant in Orthopaedics*.
 CARL M. BISHOP (1930), *Technical Associate in Pathology*.
 ROBERT L. BLAKE (1949), *Associate in Medical Art and Illustration*.
 EUGENE E. BLECK (1953), M.D., *Instructor in Orthopaedics*.

* Year of Appointment.

† Military Leave.

- BRYON M. BLOOR (1952), M.D., *Associate in Neurosurgery.*
 EDNA BLUMENTHAL (1950), B.S., R.P.T., *Lecturer in Physical Therapy.*
 MORTON BOGDONOFF (1953), M.D., *Instructor in Medicine.*
 ALEXANDER W. BOONE (1952), M.D., *Assistant Professor of Urology.*
 BASIL BOYD (1954), M.D., *Assistant in Orthopaedics.*
 IVAN W. BROWN, JR. (1945), M.D., *Assistant Professor of Surgery.*
 W. G. BROWN (1947), A.B., *Instructor in Preventive Medicine and Public Health.*
 EVERETT I. BUGG (1946), M.D., *Associate in Orthopaedics.*
 LEONARD BURGIN (1954), M.D., *Instructor in Medicine.*
 EWALD W. BUSSE (1953), M.D., *Professor of Psychiatry.*
 WILLIAM L. BYRNE (1954), Ph.D., *Associate in Biochemistry.*
 JOHN B. CAHOON (1944), R.T., *Technical Associate in Radiology.*
 J. LAMAR CALLOWAY (1937), M.D., *Professor of Medicine.*
 MARY B. CAMPBELL (1943), R.N., M.A.A.N.A., *Instructor in Anesthesiology.*
 P. C. CAMPBELL (1951), M.D., *Instructor in Medicine.*
 R. CHARMAN CARROLL (1944), M.D., *Assistant Professor of Psychiatry.*
 BAYARD CARTER (1931), M.D., *Professor of Obstetrics and Gynecology.*
 DONALD CARTER (1952), M.D., *Associate in Medicine.*
 GORDON CARVER (1953), M.D., *Instructor in Surgery.*
 JOHN DAVID CHARLTON (1953), M.D., *Instructor in Medicine.*
 SIDNEY CHIPMAN (1950), M.D., M.Ph., *Visiting Lecturer in Preventive Medicine and Public Health.*
 RAYMOND J. CHITTUM (1953), M.D., *Assistant in Surgery.*
 JAMES W. CHRISTOFFERSON (1954), M.D., *Assistant in Anesthesiology.*
 ELON H. CLARK (1934), *Professor of Medical Art and Illustration.*
 FRANK CLIPPINGER (1954), M.D., *Assistant in Orthopaedics.*
 LOUIS D. COHEN (1946), Ph.D., *Associate Professor of Psychiatry.*
 SANFORD I. COHEN (1954), M.D., *Instructor in Psychiatry.*
 B. T. COLE (1953), Ph.D., *Instructor in Physiology.*
 JOHN P. COLLINS (1948), M.D., *Associate Professor of Surgery.*
 NORMAN F. CONANT (1935), Ph.D., *Professor of Mycology, Associate Professor of Bacteriology.*
 RICHARD G. CONNAR (1953), M.D., *Assistant Professor of Surgery.*
 AUDREY CONNOR (1953), M.D., *Instructor in Medicine.*
 A. D. COOPER (1934), M.D., *Instructor in Medicine.*
 FRANK B. COOPER (1953), M.D., *Assistant in Ophthalmology.*
 ALFRED N. COSTNER (1950), M.D., *Associate in Ophthalmology.*
 H. W. CRAIG (1930), *Technical Associate in Serology.*
 ROBERT L. CRAIG (1938), M.D., *Associate in Psychiatry.*
 GEORGE W. CRANE (1949), M.D., *Instructor in Medicine.*
 HUGH CRAWFORD (1953), M.D., *Assistant in Plastic Surgery.*
 ROBERT N. CREADICK (1946), M.D., *Associate Professor of Obstetrics and Gynecology.*
 HURTHA CRESS (1954), M.A., *Technical Associate in Pathology.*
 ROBERT D. CROUCH (1953), M.D., *Assistant in Urology.*
 GRACE CUNNINGHAM (1952), B.S., R.P.T., *Assistant in Physical Therapy.*
 KENNETH CUYLER (1938), Ph.D., *Research Instructor in Obstetrics and Gynecology.*
 BINGHAM DAI (1943), Ph.D., *Professor of Psychiatry.*
 THOMAS B. DAMERON (1954), M.D., *Instructor in Orthopaedics.*
 GEORGE D'ANGELO (1953), M.D., *Assistant in Surgery.*
 LEO DANIELS (1940), *Technical Associate in Biochemistry.*
 ATALA T. S. DAVISON (1942), M.D., *Associate in Pediatrics.*

- WILBURT C. DAVISON (1927), M.D., *Professor of Pediatrics, Dean of Medical School.*
- JOHN E. DEES (1939), M.D., *Professor of Urology.*
- SUSAN C. DEES (1939), M.D., *Associate Professor of Pediatrics.*
- WILLIAM P. DEISS (1954), M.D., *Assistant Professor of Medicine and Biochemistry.*
- GEORGE D. DELAUGHTER (1954), M.D., *Assistant in Surgery.*
- WILLIAM J. A. DEMARIA (1951), M.D., *Assistant Professor of Pediatrics.*
- SARA J. DENT (1953), M.D., *Instructor in Anesthesiology.*
- WILLIAM E. DETURK (1949), M.D., Ph.D., *Associate Professor of Pharmacology.*
- MACDONALD DICK (1932), M.D., *Assistant Professor of Physiology and Pharmacology.*
Associate in Medicine.
- MARCUS L. DILLON (1953), M.D., *Instructor in Surgery.*
- G. GRADY DIXON (1954), M.D., *Instructor in General Practice.*
- WILLIAM DOUGLAS (1954), M.D., *Assistant in Plastic Surgery.*
- ROBERT DOVENMUEHLE (1954), M.D., *Instructor in Psychiatry.*
- KENNETH L. DUKE (1940), Ph.D., *Associate Professor of Anatomy.*
- GEORGE S. EADIE (1930), M.B., Ph.D., *Professor of Physiology and Pharmacology.*
- WATT W. EAGLE (1930), M.D., *Professor of Otolaryngology.*
- ELEANOR B. EASLEY (1934), M.D., *Associate in Obstetrics and Gynecology.*
- FREDERICK T. EASTWOOD (1949), M.D., *Instructor in Pediatrics.*
- EDWARD A. ECKERT (1952), Ph.D., *Research Associate in Experimental Surgery*
and Instructor in Bacteriology.
- SAMUEL L. ELMON (1949), M.D., *Instructor in Medicine.*
- FRANK ENGEL (1947), M.D., *Associate Professor of Medicine, Associate in Physiology.*
- JESSE H. EPPERSON (1930), B.S., *Lecturer in Preventive Medicine and Public Health.*
- HARVEY ESTES (1953), M.D., *Associate in Medicine.*
- JOHN WENDELL EVERETT (1932), Ph.D., *Professor of Anatomy.*
- WILLIAM W. FARLEY (1949), M.D., *Instructor in Pediatrics.*
- JUDITH FARRAR (1929), AB., B.S., *Assistant Professor of Medical Literature.*
- GEORGE B. FERGUSON (1937), M.D., *Associate in Bronchoscopy.*
- BERNARD FETTER (1951), M.D., *Associate in Pathology.*
- W. G. FITZGERALD (1951), M.D., *Instructor in Medicine.*
- ELEANOR FLANAGAN (1951), A.B., R.P.T., *Assistant in Physical Therapy.*
- BENJAMIN H. FLOWE (1954), M.D., *Instructor in Surgery.*
- MERLE M. FOECKLER (1953), B.A., M.S.S.W., *Instructor in Social Service.*
- WILEY D. FORBUS (1930), M.D., *Professor of Pathology.*
- A. A. FOSTER (1946), *Technical Instructor in Psychiatry.*
- JOHN A. FOWLER (1953), M.D., *Assistant Professor of Psychiatry.*
- JOE WALTON FRAZER (1954), M.D., *Assistant in Surgery.*
- MARTHA FREEMAN (1954), B.S., R.P.T., *Assistant in Physical Therapy.*
- NOBORU FUKUNHEA (1954), M.D., *Visiting Assistant Professor of Pathology.*
- EARL GALLEHER (1954), M.D., *Assistant in Surgery.*
- CLARENCE E. GARDNER, JR. (1930), M.D., *Professor of Surgery.*
- LEE D. GARTNER (1952), M.D., *Instructor in Urology.*
- OTTO GAUER (1953), M.D., *Associate Professor of Physiology and Pharmacology.*
- MICHEL BOURGEOIS GAVARDIN (1953), M.D., *Visiting Lecturer in Anesthesiology.*
- NICHOLAS G. GEORGIADIS (1951), M.D., *Assistant Professor of Plastic Surgery.*
- JAMES GIBBONS (1954), M.D., *Instructor in Medicine.*
- JOHN GILLIN (1945), *Consultant in Psychiatry.*
- JOHN GLASSON (1952), M.D., *Instructor in Orthopaedics.*
- JEAN GODFREY (1954), B.S., O.T.R., *Assistant in Occupational Therapy.*

- LEONARD GOLDNER (1950), M.D., *Associate Professor of Orthopaedics.*
 JEWETT GOLDSMITH (1949), M.D., *Assistant Professor of Psychiatry.*
 SANFORD GOLDSTONE (1953), Ph.D., *Associate in Psychiatry.*
 ROBERT A. GOWDY (1953), M.D., *Instructor in Surgery.*
 WILLIAM A. GRAHAM (1938), M.D., *Instructor in Obstetrics and Gynecology.*
 CYRUS L. GRAY (1952), M.D., *Visiting Lecturer in Radiology.*
 BERNARD G. GREENBERG, Ph.D., *Visiting Lecturer in Preventive Medicine and Public Health.*
 KEITH S. GRIMSON (1930), M.D., *Professor of Surgery.*
 JEROME A. GRUNT (1953), Ph.D., *Instructor in Anatomy.*
 FRANK G. HALL (1926), Ph.D., *Professor of Physiology.*
 HELEN E. HALL (1953), M.D., *Associate in Anesthesiology.*
 KENNETH D. HALL (1954), M.D., *Assistant in Anesthesiology.*
 WINFRED T. HALL (1954), D.D.S., *Assistant in Oral Surgery.*
 EARL HALTIWANGER (1953), M.D., *Assistant in Urology.*
 EDWIN C. HAMBLIN (1931), M.D., *Associate Professor of Obstetrics and Gynecology.*
 PHILIP HANDLER (1939), Ph.D., *Professor of Biochemistry.*
 O. C. E. HANSEN-PRÜSS (1930), M.D., *Professor of Medicine.*
 JOHN B. HARMON (1953), M.D., *Assistant in Orthopaedics.*
 JEROME S. HARRIS (1936), M.D., *Professor of Pediatrics, Associate Professor of Biochemistry.*
 DERYL HART (1930), M.D., *Professor of Surgery.*
 ERNEST H. HARTMAN (1954), M.D., *Assistant in Orthopaedics.*
 CAROLINE HELMICK (1948), M.D., *Associate in Preventive Medicine.*
 JACQUELINE P. HENAGE (1954), B.S., *Assistant in Physical Therapy.*
 JAMES P. HENDRIX (1938), M.D., *Associate Professor of Medicine.*
 MARY HENNESSEE (1954), *Instructor in Social Service.*
 DUNCAN C. HETHERINGTON (1930), M.D., Ph.D., *Professor of Anatomy.*
 ALBERT HEYMAN (1953), M.D., *Associate Professor of Medicine.*
 JOHN B. HICKAM (1947), M.D., *Associate Professor of Medicine.*
 MARY M. HIERS (1954), R.N., M.A.A.M.A., *Education Program Director.*
 GOLDEN S. HINTON (1954), M.D., *Assistant in Ophthalmology and Otolaryngology.*
 LESLIE B. HOHMAN (1946), M.D., *Professor of Psychiatry.*
 S. FRANK HORNE (1953), M.D., *Instructor in Medicine.*
 AUBREY T. HORNSBY (1953), M.D., *Assistant Professor of Radiology.*
 CHARLES E. HORTON (1952), M.D., *Instructor in Plastic Surgery.*
 RAYMOND HOWARD (1941), *Instructor in Medical Photography.*
 ROGER W. HOWELL (1953), M.D., *Visiting Lecturer in Preventive Medicine and Public Health.*
 WAYLAND HULL (1953), Ph.D., *Assistant Professor of Physiology.*
 BENJAMIN F. HUNTLEY (1954), M.D., *Instructor in Medicine.*
 JOHANNA HUTCHINSON (1954), M.D.S.P., *Assistant in Physical Therapy.*
 AUSTIN T. HYDE (1954), M.D., *Instructor in Medicine.*
 JACQUELINE HYMANS (1954), M.D., *Instructor in Medicine.*
 CHARLES E. IRWIN (1946), *Lecturer in Orthopaedics.*
 ROBERT T. IVEY (1937), *Technical Instructor in Pathology.*
 MURRAY JACKSON (1954), M.D., *Instructor in Radiology.*
 JULIAN E. JACOBS (1951), M.D., *Lecturer in Orthopaedics.*
 CONSTANCE JELKS (1954), A.B., R.P.T., *Assistant in Physical Therapy.*
 WALLACE JENSEN (1953), M.D., *Assistant Professor of Medicine.*
 DAVID JOHNSON (1953), M.D., *Associate in Pathology.*

- DOROTHY M. JOHNSON (1953), B.S., M.S.W., *Instructor in Social Service.*
 DAVID H. JOHNSTON (1953), M.D., *Instructor in Medicine.*
 C. P. JONES (1935), M.T., *Technical Research Instructor.*
 EDWARD E. JONES (1953), Ph.D., *Associate in Psychiatry.*
 HELEN LOUISE KAISER (1943), R.P.T., *Assistant Professor of Physical Therapy, in charge of the division.*
 HENRY KAMIN (1948), Ph.D., *Associate in Biochemistry.*
 NICHOLAS K. KATTAN (1954), M.D., *Assistant in Orthopaedics.*
 ROBERT L. KEELEY (1954), M.D., *Instructor in Surgery.*
 MICHAEL J. KEITH (1953), B.S., *Assistant in Psychiatry.*
 WALTER KEMPNER (1934), M.D., *Professor of Medicine.*
 ROBERT A. KEPPEL (1953), M.D., *Assistant in Surgery.*
 GRACE KERBY (1947), M.D., *Assistant Professor of Medicine.*
 DONALD R. KERNODLE (1953), M.D., *Assistant in Ophthalmology.*
 GEORGE W. KERNODLE (1946), M.D., *Instructor of Pediatrics.*
 **PHILLIP KHAIRALLAH, M.D., *Instructor in Biochemistry.*
 JOHN T. KING (1949), M.D., *Instructor in Pediatrics.*
 WILLIAM H. KNISELY (1954), Ph.D., *Instructor in Anatomy and Fellow in Medicine*
 SEYMOUR KORKES (1953), M.D., *Associate Professor of Biochemistry.*
 GEORGE E. KOURY (1950), M.D., *Assistant in Medicine.*
 CHARLES KUNKLE (1948), M.D., *Associate Professor of Medicine.*
 WESTON LABARRE (1949), *Consultant in Psychiatry.*
 LEON LACK (1953), Ph.D., *Research Associate in Biochemistry.*
 HOWARD LANGLEY (1934), *Technical Associate in Physiology.*
 JOHN E. LARSH, JR. (1943), M.S., *Associate in Parasitology.*
 HANS LEEN (1954), M.D., *Assistant in Anesthesiology.*
 HELEN LEWIS (1954), A.B., *Instructor in Social Service.*
 JESSICA LEWIS (1947), M.D., *Associate in Medicine.*
 EUGENE J. LINBERG (1952), M.D., *Instructor in Surgery.*
 DAVID A. LOCKHART (1954), M.D., *Instructor in Pediatrics.*
 MARY JANE LOCKHART (1954), A.B., *Technical Instructor in Pathology.*
 ARTHUR H. LONDON, JR. (1932), M.D., *Associate in Pediatrics.*
 FRANK H. LONGINO (1951), M.D., *Instructor in Surgery.*
 HANS LOWENBACH (1940), M.D., *Professor of Psychiatry.*
 EMMETT LUPTON (1952), M.D., *Instructor in Medicine.*
 HAROLD J. MAGNUSON, M.D., M.P.H., *Visiting Lecturer in Preventive Medicine and Public Health.*
 CARTER P. MAGUIRE (1953), M.D., *Instructor in Plastic Surgery.*
 PAUL F. MANESS (1947), M.D., *Instructor in Pediatrics.*
 GEORGE MARGOLIS (1947), M.D., *Associate Professor of Pathology.*
 JOSEPH E. MARKEE (1943), Ph.D., *James B. Duke Professor of Anatomy.*
 RUTH C. MARTIN (1944), M.D., *Associate Professor of Anesthesiology.*
 SAMUEL P. MARTIN (1949), M.D., *Associate Professor of Medicine.*
 EDWIN MARTINAT (1953), M.D., *Assistant in Orthopaedics.*
 SARAH MATTESON (1954), *Instructor in Psychiatry.*
 ANGUS MCBRYDE (1931), M.D., *Associate Professor of Pediatrics.*
 RALPH MCCAULEY (1953), M.D., *Assistant in Urology.*
 SARA MCCLURE (1954), M.D., *Instructor in Pathology.*

** Military leave.

- CLAUDE McCLURE (1953), M.D., *Assistant in Neurosurgery.*
 JOSEPH McCracken (1946), M.D., *Instructor in Medicine.*
 EDWARD G. MCGAVRAN (1951), M.D., Ph.D., *Lecturer in Preventive Medicine and Public Health.*
 HENRY McINTOSH (1952), M.D., *Instructor in Medicine.*
 HARRY McPHERSON (1953), M.D., *Instructor in Medicine.*
 JOSEPH McWHIRT (1954), M.D., *Assistant in Plastic Surgery.*
 ELIJAH E. MENESEE, JR. (1940), M.D., *Associate Professor of Medicine.*
 GEORGE MILLER (1954), M.D., *Lecturer in Orthopaedics.*
 OSCAR LEE MILLER (1946), M.D., *Lecturer in Orthopaedics.*
 FRANCIS A. MORRIS (1953), M.D., *Assistant in Surgery.*
 JOHN MULLER (1953), M.D., *Instructor in Medicine.*
 ROBERT J. MURPHY, JR. (1950), M.D., *Instructor in Pediatrics.*
 ROBERT E. MUSGRAVE (1954), M.D., *Assistant in Orthopaedics.*
 JACK D. MYERS (1947), M.D., *Associate Professor of Medicine.*
 WALTER P. NEILL (1953), M.D., *Instructor in Neurosurgery.*
 BARBARA NEWBORG (1952), M.D., *Instructor in Medicine.*
 WILLIAM M. NICHOLSON (1935), M.D., *Professor of Medicine.*
 GEORGE R. NUGENT (1954), M.D., *Assistant in Neurosurgery.*
 GUY L. ODOM (1943), M.D., *Professor of Neurosurgery.*
 EDWARD S. ORGAIN (1934), M.D., *Professor of Medicine.*
 RODERICK ORMANDY (1953), Ph.D., *Assistant Professor of Medical Speech Pathology.*
 SUYDAM OSTERHOUT (1953), M.D., *Instructor in Bacteriology and Fellow in Medicine.*
 JEFFERSON C. PAINTER (1953), B.S., *Research Assistant in Anatomy.*
 LEONARD PALUMBO, JR. (1950), M.D., *Visiting Lecturer in Obstetrics and Gynecology.*
 JOSEPH PARKER (1953), M.D., *Associate Professor of Psychiatry.*
 ROY PARKER (1955), M.D., *Assistant Professor of Obstetrics and Gynecology.*
 OSCAR PARSONS (1954), M.D., *Associate in Psychiatry.*
 SIMONS I. PATRICK (1950), M.D., *Associate in Radiology.*
 RICHARD L. PEARSE (1938), M.D., *Instructor in Obstetrics and Gynecology.*
 TALMAGE PEELE (1939), M.D., *Associate Professor of Anatomy, Assistant Professor of Medicine.*
 **CHARLES H. PEETE (1953), M.D., *Associate in Obstetrics and Gynecology.*
 ISABEL PELTON (1947), M.S.S.W., *Instructor in Social Service.*
 KENNETH E. PENROD (1950), Ph.D., *Associate Professor of Physiology and Pharmacology, Assistant Dean of Medical School.*
 S. PAUL PERRY (1953), M.D., *Assistant Professor of Radiology.*
 ELBERT L. PERSONS (1930), M.D., *Associate Professor of Medicine.*
 ERNST PESCHEL (1947), M.D., *Associate in Medicine.*
 RUTH PESCHEL (1947), M.D., *Assistant in Medicine.*
 JOHN B. PFEIFFER (1949), M.D., *Associate Professor of Medicine.*
 HENRY F. PICKETT (1935), A.B., *Associate in Medical Art and Illustration.*
 J. PHILLIP PICKETT (1939), *Technical Instructor in Pathology.*
 KENNETH L. PICKRELL (1944), M.D., *Professor of Plastic Surgery.*
 KENNETH A. PODGER (1946), M.D., *Instructor in Obstetrics and Gynecology.*
 HILDA POPE (1948), Ph.D., *Assistant Professor of Bacteriology.*
 DOROTHY O. POST (1952), M.S.S.W., *Instructor in Social Service.*
 MARY A. POSTON (1930), M.A., *Associate in Bacteriology.*
 GEORGE P. POTEKHEN (1954), *Assistant in Anesthesiology.*
 PAUL PROUD (1954), M.A., R.P.T., *Instructor in Physical Therapy.*

** Military leave.

- WILLIAM W. PRYOR (1953), M.D., *Instructor in Medicine.*
- ALBERT PUGH (1953), M.D., *Assistant Professor of Medicine.*
- VERNON PUGH, JR. (1954), M.D., *Assistant in Anesthesiology.*
- B. BEVERLY RANEY (1934), M.D., *Lecturer in Orthopaedics.*
- RICHARD B. RANKIN (1954), M.D., *Assistant in Ophthalmology.*
- ROBERT J. REEVES (1930), M.D., *Professor of Radiology.*
- DAVID H. REYNOLDS (1952), M.D., *Assistant in Neurosurgery*
- WILLIAM T. RICE (1954), M.D., *Assistant in Anesthesiology.*
- PAUL RICHARDSON (1954), M.D., *Instructor in Medicine.*
- AUDRY RINALDI (1954), *Technical Assistant in Radiology.*
- JOHN A. RITCHIE (1954), M.D., *Associate in Psychiatry.*
- JACK G. ROBBINS (1952), M.D., *Instructor in Medicine.*
- WILLIAM, ROBERTS (1946), M.D., *Lecturer in Orthopaedics.*
- STANFIELD ROGERS (1952), M.D., *Assistant Professor of Pathology.*
- NORMAN F. ROSS (1937), D.D.S., *Associate in Dentistry.*
- ROBERT A. ROSS (1930), M.D., *Visiting Lecturer in Obstetrics and Gynecology.*
- LEONARD ROTHSTEIN (1954), M.D., *Instructor in Psychiatry.*
- JULIAN M. RUFFIN (1930), M.D., *Professor of Medicine.*
- WAYNE R. RUNDLES (1945), M.D., Ph.D., *Associate Professor of Medicine.*
- MOHAMMED EL-HADL SALEM (1953), M.B.B.Ch., D.S., *Instructor in Surgery.*
- RICARDO SANCHEZ (1951), M.D., *Assistant in Orthopaedics.*
- AARON P. SANDERS (1953), M.S., *Instructor in Radiology.*
- BAXTER SAPP (1954), D.D.S., *Instructor in Dentistry.*
- H. MAX SCHIEBEL (1939), M.D., *Associate in Surgery.*
- GUY WALTER SCHLASEMAN (1954), M.D., *Visiting Lecturer in Radiology.*
- PHYLLIS SCHOCK (1948), *Technical Instructor in Clinical Microscopy.*
- CLOTILDE SCHLAYER (1937), Ph.D., *Assistant in Medicine.*
- THEODORE B. SCHWARTZ (1953), M.D., *Assistant Professor of Medicine.*
- GEORGE W. SCHWERT (1946), Ph.D., *Associate Professor of Biochemistry.*
- WILL C. SEALY (1936), M.D., *Associate Professor of Surgery.*
- JAMES H. SEMANS (1953), M.D., *Associate Professor of Urology.*
- GORDON D. SHARP (1939), Ph.D., *Associate Professor of Biophysics in Experimental Surgery.*
- JOHN F. SHERRILL (1953), M.D., *Instructor in Radiology.*
- MILDRED M. SHERWOOD (1930), R.N., *Associate in Pediatrics.*
- WILLIAM W. SHINGLETON (1943), M.D., *Assistant Professor of Surgery.*
- HERBERT SIEKER (1953), M.D., *Instructor in Medicine.*
- GEORGE SILVER (1946), M.D., *Assistant Professor of Psychiatry.*
- ALBERT J. SILVERMAN (1953), M.D., *Associate in Psychiatry.*
- WILLIAM V. SINGLETARY (1948), M.D., *Instructor in Medicine.*
- BENJAMIN S. SKINNER (1946), M.D., *Instructor in Pediatrics.*
- ALBERT G. SMITH (1951), M.D., *Associate in Pathology.*
- DAVID T. SMITH (1930), M.D., *James B. Duke Professor of Bacteriology, Associate Professor of Medicine.*
- JOHN B. K. SMITH (1953), M.D., *Associate in Psychiatry.*
- LEWIS J. SMITH (1953), M.D., *Instructor in Surgery.*
- PRESTON W. SMITH (1930), *Technical Associate in Clinical Microscopy.*
- SUSAN GOWER SMITH (1930), M.A., *Associate in Nutrition.*
- ANNABEL STANFORD (1953), M.S., *Instructor in Social Service.*

- EUGENE A. STEAD, JR. (1947), M.D., *Professor of Medicine.*
FRANK H. STELLING (1949), M.D., *Lecturer in Orthopaedics.*
CHARLES R. STEPHEN (1950), M.D., C.M., D.A., *Professor of Anesthesiology.*
FREDERICK W. STOCKER (1943), M.D., *Associate Professor of Ophthalmology.*
LUCY STRAW (1954), M.D., R.P.T., *Lecturer in Physical Therapy.*
CHARLES W. STYRON (1946), M.D., *Associate in Medicine.*
R. BURKE SUITT (1940), M.D., *Assistant Professor of Psychiatry.*
MIGUEL SZNOL (1954), D.D.S., *Assistant in Oral Surgery.*
ALLEN TAYLOR (1951), M.D., *Visiting Lecturer in Radiology.*
CHESTER R. TAYLOR (1945), *Technical Associate in Surgery.*
EUGENE E. TAYLOR, M.D., M.P.H., *Visiting Lecturer in Preventive Medicine and Public Health.*
HAYWOOD TAYLOR (1930), Ph.D., *Professor of Toxicology, Associate Professor of Biochemistry.*
JAPE TAYLOR (1954), M.D., *Instructor in Medicine.*
WALTER LEE THOMAS (1937), M.D., *Associate Professor of Obstetrics and Gynecology.*
WILLIAM J. THOMAS (1949), *Technical Instructor in Surgery.*
HARRY S. THOMSON (1954), M.D., *Assistant in Surgery.*
THOMAS G. THURSTON (1951), M.D., *Instructor in Radiology.*
BERT R. TITUS (1945), *Technical Associate in Orthosis.*
JAMES R. TRIMBLE (1953), M.D., *Instructor in Medicine.*
ROBERT B. TRUMBO (1953), M.D., *Instructor in Surgery.*
WILLIAM B. TUCKER (1954), M.D., *Professor of Medicine.*
VIOLET H. TURNER (1945), M.D., *Assistant Professor of Obstetrics and Gynecology.*
WILLIAM W. VALLOTTON (1953), M.D., *Assistant in Ophthalmology.*
CHRISTA VON ROEBEL (1950), M.D., *Associate in Obstetrics and Gynecology.*
KARLA E. WALTER (1954), *Instructor in Psychiatry.*
BERNARD WANSKER (1953), M.D., *Instructor in Medicine.*
FRANK P. WARD (1954), M.D., *Assistant in Medicine.*
JAMES V. WARREN (1952), M.D., *Professor of Medicine, Associate Professor of Physiology.*
CORNELIA ANNE WATSON (1954), B.S., O.T.R., *Director of Occupational Therapy.*
GEORGE A. WATSON, JR. (1946), M.D., *Instructor in Pediatrics.*
JOHN E. WEAR (1954), M.D., *Instructor in Radiology.*
BAILEY WEBB (1949), M.D., *Instructor in Pediatrics.*
JOHN WEBB (1954), M.D., *Instructor in Medicine.*
KENNETH D. WEEKS (1947), M.D., *Instructor in Medicine.*
A. N. WEBSTER (1944), *Instructor in Medical Photography.*
CLARK A. WHITEHORN (1953), M.D., *Instructor in Urology.*
EDWARD S. WHITESIDES (1953), M.D., *Instructor in Orthopaedics.*
JANET WIEN (1949), M.S., *Assistant Professor of Social Service.*
FREDERICK W. WIESE (1954), M.D., *Assistant in Orthopaedics.*
D. M. WILLIAMS (1948), B.S., *Lecturer in Preventive Medicine and Public Health.*
JESSE WILLIAMS (1954), M.D., *Assistant in Urology.*
JOHN WILSON (1953), M.D., *Instructor in Medicine.*
JAMES B. WRAY (1953), M.D., *Assistant in Orthopaedics and Instructor in Anatomy.*
FRANK R. WRENN (1953), M.D., *Instructor in Neurosurgery.*
RICHARD N. WRENN (1953), M.D., *Instructor in Orthopaedics.*
BARNES WOODHALL (1937), M.D., *Professor of Neurosurgery.*

- E. JANE HERRING WOOTEN, M.D., *Instructor in Pediatrics.*
IRIS CLARK YEO (1953), A.B., M.S.W., *Instructor in Social Service*
DAVID A. YOUNG (1946), M.D., *Consultant in Psychiatry.*
W. GLENN YOUNG (1953), M.D., *Instructor in Surgery.*
FRED ZECHMAN (1953), M.S., *Instructor in Physiology.*

Fellows

- RICHARD BIRCHFIELD, M.D., *Medicine.*
LAETITIA M. BRUCE, M.B., Ch.B., *Pediatrics.*
MENG CHUN-CHANG, M.B., *Pediatrics.*
ELMER V. DAHL, M.D., *Pathology.*
FAUSTINE GARCIA, M.D., *Pathology.*
HENRY L. IZLAR, M.D., *Medicine.*
PECHARANONDHA KAMPOL, M.D., *Pathology.*
HERBERT KARP, M.D., *Medicine.*
GEORGE A. KELSER, M.D., *Medicine.*
WEN-SHIH-JEN LIN, M.D., *Pathology.*
LEONARD M. LISTER, M.D., *Medicine.*
SHIZUO MORISHIGE, M.D., *Pediatrics.*
HERSCHEL V. MURDAUGH, M.D., *Medicine.*
ROBERT NUGENT, *Neurosurgery.*
JOHN A. OWEN, M.D., *Medicine.*
LEO OTTEY, Ph.D., *Pharmacology.*
A. OTTOLONGHI, M.D., *Pharmacology.*
MASAYUKI SAITO, M.D., *Pediatrics.*
JUI-LOW SUNG, M.D., *Medicine.*
RHETT P. WALKER, M.D., *Medicine.*
MARIUS WELL, M.D., *Surgery.*
JEFFERSON E. WHITE, M.D., *Medicine*

Standing Committees of the School of Medicine

ADMISSIONS

J. E. Markee (Chairman), Mrs. F. H. Swett (Secretary), Brown, Conant, Hendrix, Martin, Odom and Penrod.

CURRICULUM

J. S. Harris (Chairman), Conant, Hart, Lowenbach, Markee and Stead.

CURRICULUM ADVISORY

The chief resident on each of the clinical services plus the class presidents of each of the four classes.

DURHAM VETERANS HOSPITAL

J. D. Myers (Chairman), Baylin, Busse, Davison, Forbus, Hart, Margolis, Reeves, Ross, Shingleton, Silver and Stead.

BUILDING

L. E. Swanson (Chairman), Altvater, Hart and Martin.

LIBRARY

Mrs. J. H. Semans (Chairman), F. W. Bernheim, Carter, Engel, Persons, Sealy and Semans.

STUDENT TECHNICIANS

H. M. Taylor (Chairman), Margolis, Rundles and Smith.

OUT-PATIENT CLINIC

E. A. Stead, Jr. (Chairman), Baylin, DeMaria, Hart, Lowenbach, John McBryde, Miss Clark.

HOSPITAL RECORDS

E. L. Persons (Chairman), Lenox Baker, Gardner, Harris, Hohman, Porter, Thomas, Mrs. Bufkin, Miss Clark.

MEDICAL ART AND ILLUSTRATION

J. W. Beard (Chairman), Markee.

CONTINUATION EDUCATION

W. M. Nicholson (Chairman), Baylin, Hart, Markee and Myers.

PHYSICAL AND OCCUPATIONAL THERAPY

L. D. Baker (Chairman), Hall, Lowenbach, Persons, Porter, Misses Huckabee, Kaiser and Watson.

SOCIAL SERVICE

W. M. Nicholson (Chairman), Grimson, Lowenbach, Persons, Porter and Miss Wien.

BORDEN AWARD

J. E. Markee (Chairman), Grimson, Hendrix and Pickrell.

HOSPITAL ADMINISTRATION

F. R. Porter (Chairman), Carter, Davison, Forbus, Hart, Hohman, Pyne, Smith, Stead, Swanson and Wright, Mrs. E. W. Martin.

TRENT PRIZE

J. E. Markee (Chairman), Carter and Gardner.

HANES FUND

W. D. Forbus (Chairman), Harris, Hart and Smith.

CO-ORDINATION OF PARAMEDICAL SERVICES

K. E. Penrod (Chairman), Brown, Cahoon, Conant, Handler, Markee, Swanson, Taylor, Misses Clark and Kaiser.

General Information

Introduction

Duke University School of Medicine and Duke Hospital were established in 1930, through the munificent gift of the late James B. Duke. The School of Medicine and Hospital are located in the same building situated on the campus of Duke University. Both have been planned to insure the greatest correlation between the various departments. The students in the School of Medicine are accorded the same privileges and subject to the same laws and regulations as those of the other divisions in the University. Seventy-six students are admitted to the first year class each year and on October 4, 1954 three hundred and eleven students were enrolled.

Aims of the School

The Association of American Medical Colleges has formulated five major aims of undergraduate medical education. These are:

1. To help the students acquire requisite knowledge.
2. To help the student establish essential habits.
3. To help the student achieve basic skills.
4. To help the student to develop sound attitudes.
5. To help the student to gain an understanding of professional and ethical principles.

Duke University School of Medicine has from its beginning in 1930 attempted to maintain these objectives. But additional aims have been (a) the correlation of medical research with medical teaching at all levels and (b) the continuous search for and experimentation with new or improved methods of teaching scientific medicine. The closest possible academic and physical relationship exists between the pre-clinical and the clinical staffs. The nucleus of the clinical staff operates under what has come to be known as the "geographic full-time" plan. Its members have their offices located in Duke Hospital and see private and public patients in the Hospital. This nucleus staff is augmented by a few practitioners of medicine from surrounding areas who teach on a part-time basis.

Degrees

Work in the School of Medicine may lead to the following degrees:

THE DEGREE OF DOCTOR OF MEDICINE. The degree of Doctor of Medicine is conferred on those who have completed, to the satisfaction of the Committee on Health Affairs, the twelve quarters of eleven weeks each of the curriculum of the School of Medicine, and have signed an agreement that they will spend at least two years of the succeeding three years in hospital or laboratory work acceptable to the Committee on Health Affairs. As a guarantee of this pledge the diploma is deposited in the Treasurer's Office until after the completion of this training. At the time of graduation a temporary certificate is issued which must be returned prior to the delivery of the permanent diploma. Failure to fulfill this agreement constitutes a waiver of any claim to possession of the diploma and the degree Doctor of Medicine. At present one half of the required period of approved hospital or laboratory may be active duty in the Armed Forces or U. S. Public Health Service.

THE DEGREE OF BACHELOR OF SCIENCE IN MEDICINE. After the completion of six quarters in Duke University School of Medicine, Duke University, on the recommendation of the Committee on Health Affairs, grants the degree of Bachelor of Science in Medicine to medical students who have completed creditable investigative work, prepared an acceptable report of the investigation, and passed an examination upon the subject of investigation before an advisory committee. Students who elect to undertake work toward this degree must obtain written permission from the Committee on Health Affairs after approval of their program by the head of the department in which the work is to be done. No credit toward this degree is given for additional college work. All students in good standing are encouraged to undertake such investigative work as they may elect with the approval of the head of the department in which they wish to work. All requirements must be completed three months prior to the date on which the B.S. degree is granted.

THE DEGREE BACHELOR OF SCIENCE IN MEDICAL TECHNOLOGY. A minimum of two years of approved college work is required for admission. The degree Bachelor of Science in Medical Technology is awarded upon successful completion of a twenty-one months course. The registration fee which includes tuition, student health and diploma fee for the entire course, is \$300. Other student activity fees are optional. Further information as to specific requirements may be obtained from Dr. Haywood M. Taylor, Duke Hospital, Durham, North Carolina.

THE DEGREES OF MASTER OF SCIENCE AND DOCTOR OF PHILOSOPHY. Work leading to each of these degrees may be pursued in the preclinical departments. For further details concerning conditions under which these degrees are awarded consult the Bulletin of the Graduate School of Arts and Sciences.

Student Government

Members of the student body elect an Honor Council, in which each class is represented. It is the duty of the Honor Council to hear all cases involving breaches of conduct on the part of members of the student body. All new students entering the School are required to comply with this system of government. The Council for 1954-55 is as follows:

Chairman: Robert G. Deyton, Jr.

Secretary and Treasurer: Robert E. Windom

Fourth Year Class: Rufus S. Bynum

Arthur K. David, Jr.

Donald Lee Saunders, Jr.

Third Year Class: E. Andrew Deiss, Jr. (two years)

James H. Pollock (hold over for one year)

Joseph W. Shands, Jr. (one year)

Second Year Class: Lawrence T. Bowles (two years)

Sam E. Myrick, Jr. (hold over for one year)

Robert G. Moseley (one year)

First Year Class: To be elected.

The Duke University Medical Alumni

The Duke University Medical Alumni now number more than two thousand members. Membership includes all graduates of the medical school (total through 1954=1,497), past and present faculty, and past and present house-officers of Duke Hospital. The present officers are: Charles W. Styron, '38, Raleigh, N. C., president; O. Norris Smith, former house-officer, Greensboro, N. C., vice-president; George Baylin, '37, Duke Hospital, treasurer; and Talmage Peele, '34, Duke Hospital, secretary.

A news letter is sent to all the members in January, April, July, and October of each year. Reunions are held every three years in Durham. Alumni groups are being formed in several states and plan to hold meetings at their state medical meetings.

Alumni luncheons or dinners are held during the following meetings: The American Medical Association; The Southern Medical Association; The North Carolina Medical Society.

Markle Scholars

In 1948 the John and Mary R. Markle Foundation established a program of Scholars in Medical Science. The purpose of this program is to improve medical research and education by assisting some of the promising young teachers and investigators who too often, for financial or other reasons, must forego academic careers to enter private practice or industrial laboratories. To date one hundred and thirty-six faculty members, in fifty-nine medical schools have been selected for this scholarship. Each medical school is permitted to nominate one candidate for the scholarship each year. Duke currently has more Markle Scholars on its medical school staff than any other medical school in the country, six having been nominated and elected while at Duke and a seventh having come to Duke following his election while a member of the staff of New York University. The Markle Scholars on the Duke staff, with the date of their election are:

Ivan W. Brown, 1948
George W. Schwert, 1949
Samuel P. Martin, 1950

Seymour Korkes, 1951
William J. A. DeMaria, 1952
William B. Anlyan, 1953
Wayland E. Hull, 1954

Alpha Omega Alpha

Alpha Omega Alpha, founded in 1902, is a national non-secret honorary medical society. It bestows upon those students elected to membership, recognition and honor for high scholastic achievement and promise for future accomplishment in Medicine. The Alpha Chapter of North Carolina was first established at The Duke University School of Medicine in 1931. The list of students selected since the installation of Alpha Omega Alpha comprises the honor graduates throughout the years.

Facilities

DUKE HOSPITAL. Duke Hospital, an integral part of Duke University School of Medicine, has every modern convenience for the diagnosis, proper care, welfare and comfort of the patients, both ward and private, white and colored, whether they come from Durham or from a distance. It has 592 beds, including 30 bassinets for newborn infants, and 20 premature nursery bassinets. *Medicine*, including dermatology and neurology, has 77 ward beds; *surgery*, including urology, otolaryngology, ophthalmology, and orthopaedics, 135 ward beds; *obstetrics*, including *gynecology*, 59, and 50 bassinets; *psychiatry*,

5; and *pediatrics*, 40. There are 209 private rooms and semiprivate cubicles, 12 air-conditioned operating rooms, 4 obstetric delivery rooms, and ward and student laboratories. Offices and examining rooms for members of the Medical Faculty are located in the Hospital. The Hospital has been approved for internships and residencies by the Council on Medical Education and Hospitals of the American Medical Association, and is approved by the Joint Commission on the Accreditation of Hospitals.

Duke Hospital and its Out-Patient Clinic were opened for patients on July 21, 1930. Through December 31, 1953, 490,326 individuals have been examined, diagnosed and treated. The average daily census of hospital patients during the past year was 458; 158,625 visits were made to the Out-Patient Clinics during the same period. Twenty-one per cent of the patients come from within a radius of twenty miles, the remaining 79 per cent come from the other 99 counties in North Carolina and 36 other states and 3 foreign countries. The average distance traveled by the patient is more than seventy miles.

The Private Diagnostic Clinic was organized to co-ordinate the diagnostic studies, and to give better care to the complicated problems arising in the examination of private patients. The Clinical Staff of Duke Hospital and School of Medicine forms the professional staff of this clinic, while the financial side is handled by a business manager. The offices and examining rooms are in Duke Hospital, and all of the laboratory and diagnostic facilities of the Hospital and School of Medicine are utilized by the Clinic.

VETERANS HOSPITAL. The Durham Veterans Administration Hospital is located within walking distance of the School of Medicine. This 485 bed general hospital was opened in April, 1953. Its full-time professional staff are all members of the faculty of Duke University School of Medicine and the house staff training at Veterans Hospital and Duke Hospital are closely integrated.

LIBRARY.

JUDITH FARRAR, A.B., B.S., *Librarian and Assistant Professor of Medical Literature.*
MILDRED PERKINS FARRAR, A.B., *Assistant Librarian.*

"To study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all."—SIR WILLIAM OSLER.

In addition to the General Library of Duke University and the departmental libraries of biology, chemistry, physics, etc., which have 1,130,000 volumes available for medical students, Duke Hospital Library contains 54,216 volumes of American and foreign medical literature and subscribes to 675 current American and foreign medical and other scientific journals. These books and journals are available daily from 8:30 A.M. to 10:30 P.M. for the students, nurses, staff, and medical profession.

BELL RESEARCH BUILDING. In addition to the School of Medicine and Hospital the William Brown Bell Research Building offers additional teaching and research space. The various departments of the School of Medicine maintain research facilities in this building that are open for student participation.

Living Accommodations

Housing facilities for men are provided in the Men's Graduate Center located near the Hospital. Rooms for women students are provided in Epworth Hall on the Women's Campus located about 1½ miles from the Hospital. Bus service is provided between campuses. Students are not required to live in the dormitory and rooms and apartments are available in the immediate proximity to the School of Medicine.

All dormitory rooms are occupied under the rules and regulations established by the University. Rooms may be reserved by new applicants only if they have been accepted officially for admission to the School of Medicine and if they have paid a room deposit of \$25.00 to the Duke University Housing Bureau. The initial room reservation deposit is effective for the period of continuous attendance. It will be refunded within thirty days after graduation upon the request of the student. Upon the withdrawal of an accepted applicant or of an enrolled student prior to graduation the deposit is refundable provided the Housing Bureau is notified at least sixty days prior to the beginning of the term for which the room is reserved. Students already in residency may retain their rooms for the succeeding quarter by applying to the Duke University Housing Bureau for confirmation of the reservation.

Meals are available in the cafeteria of the Men's Graduate Center located one block from the School of Medicine. Within the Hospital sandwiches and drinks only are available to students.

Medical Care

ELBERT L. PERSONS, A.B., M.D., *Physician in Charge and Associate Professor of Medicine*, CAROLINE HELMICK, A.B., M.D., *Women's Campus Physician*.

With exceptions noted below, full medical and surgical care is furnished to all regularly matriculated medical students of the University who have paid the quarterly General Fee. This service is under the direction of the Physician in Charge with the co-operation of the Staff of Duke Hospital. It includes hospitalization (limited to thirty days), medical and surgical care, drugs, dressings, x-ray studies,

and ward but not special nursing. A charge for board is made at the same rate as in the University dining halls. Refraction of eyes and treatment of teeth and of all chronic and pre-existing conditions, such as diseased tonsils, hernia, elective surgery, chronic skin conditions, endocrine disturbances, etc., or accidents or illnesses occurring during vacations or while off the campus are not included in this service. The cost of any necessary braces and orthopaedic appliances, as well as of special nursing must be borne by the patient. If the student has insurance providing hospitalization, surgical, or medical benefits, the benefits shall be applied to the cost of his medical care.

GENERAL INFORMATION FOR APPLICANTS

Years of college work required for entrance	3
Resident tuition and fees for freshman year	\$900
Non-resident tuition and fees	\$900
Estimated cost of equipment (books, supplies, etc.) freshman year	\$235
Estimated microscope expense	\$180
Estimated minimum cost of room and board for freshman year	\$600
Amount of non-refundable application fee	\$5
May give early decision to applicant preferring this school but offered a place in another school	Yes
Medical College Admission Test required	Yes

1956-57 FRESHMAN CLASS

STATISTICS FOR 1954-55
FRESHMAN CLASS

Size of freshman class	76	Number of applicants	691
File application for admission between	Aug. 15, 1955 Dec. 1, 1955	Percentage of entering freshmen who had completed four years of college	74%
Applicant will be notified of action on his application between	Nov. 1, 1955 Feb. 15, 1956	Percentage of entering freshmen interviewed	100%
Amount of deposit fee required on or after January 15, 1956, to hold place in class if applicant is accepted	\$50	Percentage of entering freshmen for whom results of the Medical College Admission Test were available	91%
Date entering class starts program	Oct. 1, 1956	Percentage of applicants who were women	5%
Address inquiries to: Committee on Admissions Duke University School of Medicine Box 3710, Duke Hospital Durham, North Carolina		Percentage of women in the freshman class	5%
		Number of out-of-state residents in freshman class	43
		Number of foreign residents included in the item above	2

Admission

"I request that great care and discrimination be exercised in admitting as students only those whose previous record shows a character, determination and application evincing a wholesome and real ambition for life."—James B. Duke.

Intelligence, character and a transparent integrity are the essential qualifications for admission.

A premedical student should be aware of the importance of a well-rounded general education as a preparation for the study of medicine and not limit himself to scientific courses. Experience has shown that the medical student with a considerable science background enjoys no advantage over his classmates with less premedical science preparation. The Admissions Committee believes that of greater importance than the specific subjects taken is the manner in which the college load is carried. The premedical student would be better advised to secure a knowledge of the principles and a thorough appreciation of the interrelations of the basic sciences than to accumulate credits in many courses. He should learn how to work independently, to observe critically and to analyze rather than to simply store the information presented. Good study habits and efficacious use of time are perhaps the most important tools a student can bring to the study of medicine. His choice of studies beyond those required for admission should be governed by his own chief interests and by the intellectual stimulus to be derived from the work. In general he should avoid courses in subjects which are included in the medical curriculum.

Application for Admission

During the period August 15 to December 1 application forms may be obtained by writing to the Committee on Admission, Box 3710, Duke Hospital, Durham, North Carolina. A check or post office money order for \$5, payable to Duke University School of Medicine, must accompany each request for an application. This fee is not refundable. Due to the large number of applicants to all medical schools candidates are advised to apply to at least four schools. Special consideration will be given to those applicants who may receive an acceptance from another school, and be forced to secure that acceptance with a deposit before hearing from Duke but who prefer to come to Duke.

Requirements for Admission

1. A minimum of ninety semester hours of approved college credit is necessary for admission to the school. It must include:

- (1) Two years of English of which the second year should be chiefly composition and theme writing.
- (2) Two years of chemistry, the first inorganic and the second analytic and organic.
- (3) One year of college physics.
- (4) One year of biology.
- (5) One year of mathematics.

2. Medical College Admission Test. This test is required of all applicants. It is administered by the Educational Testing Service, P. O. Box 592, Princeton, New Jersey. This test is given at many of the colleges throughout the country in May and November of each year. Arrangements for taking this test should be made by the student through his premedical advisor.

Selection

Selection is made during the period October 1 through February 15 for the students entering the following October. The data on each candidate are carefully screened by the Committee on Admissions. When further evidence is indicated a personal interview is requested. If the distance from Durham is permissible the interview is conducted here. Where the distance is prohibitive the candidates are referred to our regional representatives. Many factors are evaluated by the Committee in the selection process. In the end those students are admitted who show the most promise for exceptional future practice of medicine. The candidate is notified as soon as possible whether or not he has been accepted. If he has been accepted it is necessary to send a deposit of \$50.00 by the succeeding January 15 in order to insure enrollment. This deposit is applied toward tuition. Inasmuch as admission must be offered a considerable period in advance of matriculation the admission must be provisional upon the successful completion of the remaining college work. In addition a physical examination is necessary prior to enrollment.

Advanced Standing

Applications for transfer into the second and third year classes will be considered only if space permits. No applications for entrance to the fourth year will be considered. For entrance to the third year,

Part I of the National Board Examination will be required as evidence of satisfactory accomplishment in the subjects of the first two years.

*Regional Representatives of the Committee
on Admission*

Birmingham, Alabama.....	M. Y. DABNEY
Los Angeles, California.....	JEREMIAH W. KERNER
Pasadena, California.....	ROBERT H. PUDENZ
San Francisco, California.....	EMILE F. HOLMAN
San Francisco, California.....	CHARLES H. DANFORTH
Montreal, Canada.....	WILDER PENFIELD
Denver, Colorado.....	F. VERNON ALTVATER
New Haven, Connecticut.....	ALLEN K. POOLE
Jacksonville, Florida.....	EDWARD JELKS
Lakeland, Florida.....	CHARLES LARSEN, JR.
Atlanta, Georgia.....	JAMES E. PAULLIN
Atlanta, Georgia.....	E. B. DUNLAP, JR.
Savannah, Georgia.....	VICTOR H. BASSETT
Chicago, Illinois.....	GEORGE H. GARDNER
Iowa City, Iowa.....	ARTHUR L. BENTON
Iowa City, Iowa.....	PHILIP C. JEANS
Kansas City, Kansas.....	RALPH H. MAJOR
Wichita Kansas.....	THOMAS JAGER
Louisville, Kentucky.....	MALCOLM D. THOMPSON
Louisville, Kentucky.....	S. I. KORNHAUSER
New Orleans, Louisiana.....	PHILIP H. JONES, JR.
Baltimore, Maryland.....	CHARLES E. LEACH
Baltimore, Maryland.....	JOHN T. KING, JR.
Boston, Massachusetts.....	JAMES H. CURRENS
Port Huron, Michigan.....	WILLIAM T. DAVISON
Rochester, Minnesota.....	W. H. HOLLINSHEAD
St. Louis, Missouri.....	DORIS SURLS WOOLSEY
Butte, Montana.....	CAROLINE MCGILL
New York, New York.....	LAWRENCE S. KUBIE
New York, New York.....	BERTRAM J. SANGER
Rochester, New York.....	WILLIAM S. MCCANN
Syracuse, New York.....	PHILIP P. ARMSTRONG
Cleveland, Ohio.....	B. S. KLINE
Columbus, Ohio.....	CHARLES A. DOAN
Dayton, Ohio.....	R. L. JOHNSTON
Toledo, Ohio.....	JOHN L. STIFEL
Oklahoma City, Oklahoma.....	WILLIAM M. TAYLOR
Tulsa, Oklahoma.....	JAMES W. KELLY
Portland, Oregon.....	RICHARD R. CARTER
Portland, Oregon.....	KARL H. MARTZLOFF
Johnstown, Pennsylvania.....	W. FREDERIC MAYER

Palmerton, Pennsylvania.....	R. P. BATCHELOR
Pittsburgh, Pennsylvania.....	DAVENPORT HOOKER
Scranton, Pennsylvania.....	GEORGE A. CLARK
Providence, Rhode Island.....	MARSHALL N. FULTON
Charleston, South Carolina.....	EDWARD F. PARKER
Charleston, South Carolina.....	J. I. WARING
Columbia, South Carolina.....	BEN N. MILLER
Columbia, South Carolina.....	WILLIAM WESTON
Columbia, South Carolina.....	JAMES H. GIBBES
Greenville, South Carolina.....	RAYMOND C. RAMAGE
Chattanooga, Tennessee.....	RICHARD VAN FLETCHER
Memphis, Tennessee.....	RAPHAEL E. SEMMES
Nashville, Tennessee.....	SAM L. CLARK
Sewanee, Tennessee.....	HENRY T. KIRBY-SMITH
Dallas, Texas.....	A. JAMES GILL
Galveston, Texas.....	A. E. HANSEN
Houston, Texas.....	H. GRANT TAYLOR
San Antonio, Texas.....	P. I. NIXON
Salt Lake City, Utah.....	THOMAS RAY BROADBENT
Charlottesville, Virginia.....	HENRY B. MULHOLLAND
Richmond, Virginia.....	I. A. BIGGER
Seattle, Washington.....	WILLIAM A. MACCOLL
Huntington, West Virginia.....	R. M. WYLIE
Madison, Wisconsin.....	WALTER E. SULLIVAN

Curriculum

The first year is divided into two parts, each comprising one and one-half quarters. The next three years function on a quarter basis. No work is offered during the summer between the first and second years but the work of the last six quarters is offered each quarter permitting an optional accelerated program. In this manner, a student may take his summers off and complete the medical curriculum in the conventional four calendar years or he may take work during the summers between the second and third and/or third and fourth years and complete the medical curriculum in December or March of the fourth year. Approximately three-fourths of our students elect the accelerated program and many complete the required course work in December and begin internships on January 1, thereby saving six months. Graduation exercises are held only in June of each year so those who finish in December or March are issued certificates but the degree is granted at the following June commencement.

Every effort is made to emphasize the close relationship of pre-clinical and clinical instruction. Some members of the clinical staff assist in the teaching of preclinical subjects and demonstrate to the students of the first two years patients whose conditions illustrate the subjects being taught. Thus, from the student's first days, he is impressed with the interdependence of all branches of medical science. In the junior and senior years, preclinical instructors assist the clinical staff in presenting the underlying basis of disease.

An opportunity is offered in the curriculum for elective work. No credits are given, but opportunity is provided for each student on his own initiative to obtain additional training which he may feel to be necessary or desirable. Elective courses have been organized for small groups, or the time may be utilized in independent work (including research) in any department, clinical or preclinical. Arrangements for taking such courses or doing other work are made through the Curriculum Committee.

Students are encouraged to take a portion of their medical school work at other schools. Permission must be obtained in advance from the Committee on Health Affairs and the full tuition at Duke must be paid for that quarter. If the charges at the school where the work is taken are less than those at Duke they will be paid by Duke and if more the difference must be made up by the student. At the completion of the work in another school an examination in the subject will be conducted by the department at this medical school.

Promotion

Promotion committees composed of the heads of the departments offering instruction in those years periodically review the records of students. The Committee on Health Affairs, acting on recommendations of the promotion committees promote those qualified, warn those whose work is unsatisfactory, place on probation those whose work is very unsatisfactory and request the resignation of those considered unpromising candidates for the degree Doctor of Medicine. A student wishing to appeal this decision may do so to the Chairman of the Committee on Health Affairs within two weeks of his notification.

The Committee on Health Affairs reserves the right to require the withdrawal of any student at any time when, in the opinion of the majority of its members, he is unfit to continue his course.

Financial Information

Fees and Expenses

Listed below is a table of the approximate expenses per quarter of registration in the School of Medicine. These figures represent the average among the men, women, married and single medical students during the academic year 1953-1954.

ESTIMATED EXPENSES PER QUARTER

Tuition and fees, per quarter.....	\$307.50
Board	160.00
Room	90.00
Books	54.00
Clothing	31.00
Recreation	39.00
Health	9.00
Travel	12.50
Laundry	38.00
Insurance, instruments and incidentals*.....	84.00
	<u>\$825.00</u>

All fees for each quarter are due and payable at the beginning of each quarter (including the first year). A fine of \$5.00 is charged for late registration after the first 5 days of the quarter. No credit will be given for any quarter in which the tuition has not been paid whether the work has been done here or elsewhere. Students who have been permitted by the Curriculum Committee to spend a quarter at another medical school or hospital may subtract the amount of tuition paid elsewhere from that due here for that quarter.

It is not advisable for a student to attempt outside work to defray his expenses during the academic year. The curriculum is so crowded that the results usually are disastrous to his health and academic standing. A few students in the upper classes successfully carry out small part-time jobs, but this must not be relied upon for income.

Although the cost of a medical education may appear high it is noteworthy that twenty percent of the currently enrolled student body come from families having a gross income under \$5,000.00; sixty percent from families with a gross income under \$10,000.00. No scholarships are available at the present time but adequate loan funds are provided by the University.

* Microscope, sphygmomanometer, ophthalmoscope, otoscope and other equipment, which are required of each student and which must conform to rigid standards, may be obtained on a rental basis from the University.

Angier B. Duke Memorial and Other Loan Funds

The Angier B. Duke Memorial, Incorporated, administers through an advisory committee of the officers of the University a loan fund for students. In addition, the loan fund of the W. K. Kellogg Foundation is available for students who are not financially able to meet their expenses. Medical students, after their third quarter, may apply for loans from these sources. No University scholarships are awarded in the School of Medicine. The loan funds are administered in accordance with the following regulations:

1. No loan will be made to a student who violates any of the regulations of the University or who is not doing outstanding classwork.
2. Loans will be made only to students who are taking full courses of study that lead to a degree, and all loans must be arranged not later than one week after the beginning of a quarter.
3. Every applicant for a loan must present with the application such security as the President of the University may approve, and no money will be advanced before a note with approved security is in the hands of the Treasurer of the University.

Frederic M. Hanes Fellowships

Any Duke medical student after his first year is eligible for a leave of absence and a Fellowship of \$150 per month for full-time research work at Duke with special emphasis in a preclinical subject. These Fellowships will be granted on the recommendation of the Committee on Health Affairs for a period of six months, but may be renewed. Information may be obtained from Dr. D. T. Smith.

Awards to Medical Students and Interns

(Information may be obtained from the Dean's Office)

Borden Undergraduate Research Award in Medicine

An award of \$500 may be given to the Duke Senior who, in the opinion of the Committee on Health Affairs has performed the best research work during his or her entire medical course, including that done during the preclinical years, and thesis for the B.S. degree in Medicine. *Applicants should submit their papers, articles or reprints to the Dean at least three months prior to expected date of graduation.*

Trent Prize in the History of Medicine

An annual award of fifty dollars for the best original and publishable essay on any topic in the history of medicine or its allied sciences by a Duke medical student or house-officer has been established by Mrs. Mary Trent Semans in memory of the late Dr. Josiah C. Trent, who had been Assistant Professor of Surgery in Charge of Thoracic Surgery at Duke, and who had greatly increased the interest of the staff and students in medical history. Essays should be submitted to Dr. Joseph E. Márkee, the Chairman of the Trent Award Committee, by April 1 of the year in which they are to be considered.

The J. C. Trent Medical History Society, open to all Duke medical students and house officers, meets the second Tuesday of each month, either for informal discussions among its members or for a guest lecture, to which the public is welcomed. The Society also sponsors the *J. C. Trent Memorial Lecture*, established by Mrs. Mary Trent Semans.

Mosby Awards

A text or reference book from the C. V. Mosby catalog may be selected by each of the five best seniors.

Merck Award

Merck and Company donates complimentary copies of *The Merck Manual* to two outstanding seniors.

North Carolina State Loans

The State of North Carolina has established a student loan fund for the purpose of aiding worthy students who need assistance in financing their professional education and who agree to practice their profession in a North Carolina rural area or small town of less than 2500 population for a period of at least four years upon the completion of their professional training. To be eligible a student must have been a resident of North Carolina for the past eight years. The maximum loan to a medical student shall be \$1200.00 per academic year or a maximum of \$4800.00 for a four year period. The student who receives a loan must immediately following completion of the four year medical course take a rotating internship of one year and if approved by the Medical Care Commission he will have the option of continuing the internship through a second year. Detailed information can be obtained from the North Carolina Medical Care Commission, Post Office Box 1880, Raleigh, North Carolina.

Departments of Instruction

Anatomy

JOSEPH E. MARKEE, Ph.D., *James B. Duke Professor of Anatomy and Chairman of the Department.*

JOHN W. EVERETT, Ph.D., *Professor of Anatomy.*

DUNCAN C. HETHERINGTON, Ph.D., M.D., *Professor of Anatomy.*

R. FREDERICK BECKER, Ph.D., *Associate Professor of Anatomy.*

KENNETH L. DUKE, Ph.D., *Associate Professor of Anatomy.*

TALMAGE L. PEELE, M.D., *Associate Professor of Anatomy and Assistant Professor of Medicine.*

GEORGE J. BAYLIN, M.D., *Associate in Anatomy and Professor of Radiology.*

JEROME A. GRUNT, Ph.D., *Instructor in Anatomy.*

WILLIAM H. KNISELY, Ph.D., *Instructor in Anatomy.*

SAM A. AGNELLO, A.B., *Technical Instructor in Anatomy.*

The required courses of instruction in gross human anatomy, histology, and neurology are scheduled for five and one-half days a week for a period of sixteen weeks during the first year. Emphasis is placed upon the study of material in the laboratory. In an attempt to utilize more fully the laboratory time, visual educational methods are employed as fully as possible. These techniques consist of colored motion pictures of demonstration dissections, colored lantern slides, and motion pictures, both embryological and neurological. All of the instruction is designed to be as informal and as nearly individual as possible. General principles and the functional viewpoint of living anatomy are stressed in the hope that the student may be stimulated to secure a working knowledge of anatomy in the broadest sense. Whenever possible, fresh tissues and living cells are made available for examination, and clinical cases exemplifying anatomical principles are studied whenever they are available at appropriate times. Through the co-operation of the Department of Radiology, the students are given an opportunity to study portions of the living human body as revealed by the fluoroscope and roentgenograph. The following elective courses are offered:

Demonstrations in Anatomy. Using dissections already prepared, weekly demonstrations of selected regions or systems are made by the members of the group. Sixth quarter—Two hours per week by arrangement. Second-year students in groups of 10.

Review in Anatomy. During the sixth quarter, a review in anat-

omy will be presented by the visual education methods outlined above, covering gross and neuro-anatomy, and histology.

Special Neuro-anatomy. Laboratory work and conferences upon selected portions of the human central nervous system. Limited to 6 junior or senior students. Two hours weekly by arrangement.

Brain modeling. Free-hand reconstruction in clay, from gross and sectioned material, of the chief tracts and nuclei of the human brain stem. By arrangement—4 to 10 students.

Experimental Neurology. An operative and laboratory study of the effect of various lesions upon the central and peripheral portions of the nervous system. 4 to 8 junior and senior students by arrangement. Prerequisite—operative surgery.

Advanced Studies in Anatomy. These may be arranged at any time under the direction of the various members of the staff.

Review for Orthopaedic Anatomy. A one hour weekly review of the anatomy related to orthopaedic surgery.

Review for Surgical Anatomy. A one hour weekly review of the anatomy related to general surgery.

Biochemistry

PHILIP HANDLER, Ph.D., *Professor of Biochemistry and Nutrition and Chairman of the Department.*

MARY L. C. BERNHEIM, Ph.D., *Associate Professor of Biochemistry*

JEROME S. HARRIS, M.D., *Associate Professor of Biochemistry and Professor of Pediatrics.*

SEYMOUR KORKE, M.D., *Associate Professor of Biochemistry.*

GEORGE W. SCHWERT, Ph.D., *Associate Professor of Biochemistry.*

HAYWOOD M. TAYLOR, Ph.D., *Associate Professor of Biochemistry and Professor of Toxicology.*

WILLIAM P. DEISS, JR., M.D., *Assistant Professor of Biochemistry and Medicine.*

Director of Radioisotope Laboratory Durham Veterans Administration Hospital.

HENRY KAMIN, Ph.D., *Associate in Biochemistry and Principal Scientist at the Durham Veterans Administration Hospital.*

WILLIAM L. BYRNE, Ph.D., *Associate in Biochemistry.*

LEON LACK, Ph.D., *Research Instructor in Biochemistry.*

LEO B. DANIELS, *Technical Associate in Biochemistry.*

FELLOWS

PHILIP M. KHAIRALLAH, M.D., *American Heart Association Fellow in Biochemistry.*

WILLIAM F. BRIDGERS, B.S., *Fellow in Biochemistry.*

ASSISTANTS

GEORGE S. DUDA, B.S., *Research Assistant in Biochemistry.*

ALEXANDER EICHOZ, B.S., *Research Assistant in Biochemistry.*

IRWIN FRIDOVICH, B.S., *Research Assistant in Biochemistry.*

JACK D. KLINGMAN, B.S., *Research Assistant in Biochemistry.*

HAROLD JACOBSON, B.S., *Research Assistant in Biochemistry.*

FRANCIS C. NEUHAUS, B.S., *Research Assistant in Biochemistry.*

JACK PREISS, B.S., *Research Assistant in Biochemistry.*

CARL ROTHSCHILD, B.S., *Research Assistant in Biochemistry.*

YASUO TAKENAKA, M.S., *Research Assistant in Biochemistry.*

The required course in biochemistry for first-year students is given over a period of sixteen weeks in the spring semester. The first phase is devoted to a survey of the chemistry of the materials fundamental to all life, proteins, fats and carbohydrates and the nature of enzymatic action. This is followed by consideration of those events in intermediary metabolism common to the life of all mammalian cells. Thereafter, the course in biochemistry is integrated with that in physiology. The special metabolism of muscle, nerve, the eye, the kidney, bone, connective tissue and the chemical aspects of digestion, respiration, electrolyte, acid-base and fluid balance are presented at such times with relation to the study of the physiology of these organs and processes as to facilitate integration and correlation of the two disciplines. The final phase of the program is a consideration of human nutrition. Throughout the course, the student performs laboratory experiments designed to illustrate and amplify concepts considered in lectures and conferences.

Since the success of the students in this course is largely determined by the adequacy and ready availability of their premedical training, it is urged that all students review the fundamental laws, theories, and facts of chemistry before the beginning of the course. A circular outlining the topics requiring special attention is sent to all students upon admission. Additional copies of the circular may be obtained from the Dean's Office.

General Biochemistry. A lecture and seminar course, meeting three hours weekly during the Autumn, Winter and Spring quarters for qualified graduate students. Emphasis is given to enzymology and comparative biochemistry.

Biochemical Techniques. Hours by arrangement; for students who have had either of the basic courses. By repeating classic experiments, the student is introduced to each of the major tools of modern biochemical investigation.

Biochemical Research. The facilities of the department, including various types of research equipment and the clinical material of the blood chemistry laboratory, are available to properly qualified students for independent or supervised investigations. Chemical investigations of problems in biochemistry or in conjunction with the clinical and pathological departments may be carried on.

Chemistry of Proteins and Enzymes. A two-hour seminar is given weekly throughout the Autumn, Winter and Spring Quarters.

Intermediary Metabolism. A two-hour lecture course and seminar conducted during Autumn, Winter and Spring Quarters. Given alternately with *Seminar in Nutrition*.

Advanced Seminar in Nutrition. A two-hour lecture and seminar course in modern nutritional concepts. Given alternately with *Intermediary Metabolism* during Autumn Quarter.

Biochemistry of Disease. A seminar course meeting once weekly to discuss etiology and pathogenesis of metabolic diseases from the biochemical viewpoint. Given in alternate years in the Spring Quarter.

Medicine

EUGENE A. STEAD, JR., M.D., *Florence McAlister Professor of Medicine and Chairman of the Department.*

J. LAMAR CALLAWAY, M.D., *Professor of Dermatology and Syphilology.*

OSCAR C. E. HANSEN-PRÜSS, M.D., *Professor of Medicine.*

WALTER KEMPNER, M.D., *Professor of Medicine.*

WILLIAM M. NICHOLSON, M.D., *Professor of Medicine, in Charge of Postgraduate Education and Diseases of Metabolism.*

EDWARD S. ORGAIN, M.D., *Professor of Medicine.*

JULIAN M. RUFFIN, M.D., *Professor of Medicine.*

WILLIAM B. TUCKER, M.D., *Professor of Medicine.*

JAMES V. WARREN, M.D., *Professor of Medicine and Associate Professor of Physiology.*

FRANK L. ENGEL, M.D., *Associate Professor of Medicine, and Associate in Physiology.*

JAMES P. HENDRIX, M.D., *Associate Professor of Medicine and Therapeutics.*

JOHN B. HICKAM, M.D., *Associate Professor of Medicine.*

ALBERT HYMAN, M.D., *Associate Professor of Medicine.*

E. CHARLES KUNKLE, M.D., *Associate Professor of Medicine in Charge of Neurology.*

SAMUEL P. MARTIN, M.D., *Associate Professor of Medicine and Assistant Professor of Bacteriology.*

ELIJAH E. MENEFFEE, JR., M.D., *Associate Professor of Medicine.*

JACK D. MYERS, M.D., *Associate Professor of Medicine.*

ELBERT L. PERSONS, M.D., *Associate Professor of Medicine, Director of Student Health, and Associate Professor of Preventive Medicine and Public Health.*

JOHN B. PFEIFFER, JR., M.D., *Associate Professor of Medicine.*

R. WAYNE RUNDLES, Ph.D., M.D., *Associate Professor of Medicine.*

DAVID T. SMITH, M.D., *Associate Professor of Medicine and James B. Duke Professor and Chairman of the Department of Bacteriology.*

WALLACE N. JENSEN, M.D., *Assistant Professor of Medicine.*

GRACE P. KERBY, M.D., *Assistant Professor of Medicine.*

TALMAGE L. PEELE, M.D., *Assistant Professor of Medicine and Associate Professor of Anatomy.*

WILLIAM P. DEISS, JR., M.D., *Assistant Professor of Medicine and Biochemistry.*

ALBERT E. PUGH, M.D., *Assistant Professor of Medicine.*

THEODORE B. SCHWARTZ, M.D., *Assistant Professor of Medicine.*

DONALD D. CARTER, M.D., *Associate in Medicine.*

MACDONALD DICK, M.D., *Associate in Medicine and Assistant Professor of Physiology and Pharmacology.*

E. HARVEY ESTES, M.D., *Associate in Medicine.*

- JESSICA H. LEWIS, M.D., *Associate in Medicine.*
ERNST PESCHEL, M.D., *Associate in Medicine.*
CHARLES W. STYRON, M.D., *Associate in Medicine.*
JOHN W. ALLGOOD, M.D., *Instructor in Medicine.*
SHERWOOD W. BAREFOOT, M.D., *Instructor in Dermatology and Syphilology.*
WOODROW BATTEN, M.D., *Instructor in Medicine.*
MORTON BOGDONOFF, M.D., *Instructor in Medicine.*
LEONARD A. BURGIN, M.D., *Instructor in Medicine.*
PAUL C. CAMPBELL, M.D., *Instructor in Dermatology and Syphilology.*
JOHN D. CHARLTON, M.D., *Instructor in Medicine.*
AUDREY M. CONNOR, M.D., *Instructor in Medicine.*
ALBERT D. COOPER, M.D., *Instructor in Medicine.*
GEORGE W. CRANE, M.D., *Instructor in Medicine.*
SAMUEL L. ELFMON, M.D., *Instructor in Medicine.*
WALTER C. FITZGERALD, M.D., *Instructor in Dermatology and Syphilology.*
JAMES E. GIBBONS, M.D., *Instructor in Medicine.*
S. FRANK HORNE, M.D., *Instructor in Dermatology and Syphilology.*
BENJAMIN F. HUNTLEY, M.D., *Instructor in Medicine.*
AUSTIN T. HYDE, JR., M.D., *Instructor in Medicine.*
JACQUELINE C. HYMANS, M.D., *Instructor in Medicine.*
DAVID H. JOHNSTON, M.D., *Instructor in Medicine.*
EMMETT S. LUPTON, M.D., *Instructor in Dermatology and Syphilology.*
JOSEPH MCCrackEN, M.D., *Instructor in Medicine.*
HENRY D. MCINTOSH, M.D., *Instructor in Medicine.*
HARRY T. MCPHERSON, M.D., *Instructor in Medicine.*
JOHN C. MULLER, M.D., *Instructor in Medicine.*
BARBARA C. NEWBORG, M.D., *Instructor in Medicine.*
WILLIAM W. PRYOR, M.D., *Instructor in Medicine.*
JACK ROBBINS, M.D., *Instructor in Dermatology and Syphilology.*
HEBRERT O. SIEKER, M.D., *Instructor in Medicine.*
WILLIAM V. SINGLETARY, M.D., *Instructor in Medicine.*
W. J. TAYLOR, M.D., *Instructor in Medicine.*
JAMES R. TRIMBLE, M.D., *Instructor in Dermatology and Syphilology.*
BERNARD A. WANSKER, M.D., *Instructor in Dermatology and Syphilology.*
JOHN W. WEBB, JR., M.D., *Instructor in Medicine.*
K. D. WEEKS, M.D., *Instructor in Medicine.*
ROBERT W. WILLETT, M.D., *Instructor in Medicine.*
JOHN W. WILSON, JR., M.D., *Instructor in Medicine.*
GEORGE E. KOURY, M.D., *Assistant in Medicine.*
RUTH LOHMANN-PESCHEL, M.D., *Research Assistant in Medicine.*
CLOTILDE SCHLAYER, Ph.D., *Research Assistant in Medicine.*
FRANK P. WARD, M.D., *Assistant in Medicine.*
ROBERT BIRCHFIELD, M.D., *Fellow in Medicine.*
HENRY L. IZLAR, JR., M.D., *Fellow in Medicine.*
HERBERT R. KARP, M.D., *Fellow in Medicine.*
GEORGE A. KELSER, JR., M.D., *Research Fellow in Medicine.*
WILLIAM H. KNISELY, Ph.D., *Teaching Fellow in Medicine.*
LEONARD M. LISTER, M.D., *Fellow in Medicine.*

HERSCHEL V. MURDAUGH, JR., M.D., *Research Fellow in Medicine.*

JOHN A. OWEN, M.D., *Research Fellow in Medicine.*

JUI-LOW SUNG, M.D., *Voluntary Fellow in Medicine.*

JEFFERSON E. WHITE, M.D., *Fellow in Medicine.*

PRESTON W. SMITH, *Technical Associate in Clinical Microscopy.*

PHYLLIS SCHOCK, *Technical Instructor in Clinical Microscopy.*

Introduction to Clinical Medicine and Physical Diagnosis. This course is initiated, in the fifth quarter, by introductory lectures, case discussions, and instruction in the methods of physical examination and history taking. Early in the course students begin work at the bedside in the examination of selected patients. Emphasis throughout is placed on instruction individually or in small groups. The interpretation and pathogenesis of all abnormal findings are stressed. The Departments of Neurology and Psychiatry provide training in neurological and mental examinations. This plan of teaching continues in the sixth quarter, when, in addition, instruction in the more specialized methods of examination is provided through the co-operation of the Departments of Surgery, Obstetrics, Gynecology, and Radiology.

Clinical Microscopy is given in the fifth quarter. The course includes the essentials of hematology and the examination of fresh material, such as urine, stools, spinal fluids, sputum, transudates, and exudates. The most important parasites of man are studied by the use of fresh and museum material. Second-year and senior students are given opportunities for special work and for investigation. This course is supplemented in the Junior and Senior years by Hematology Conferences, which are held weekly, and Ward Rounds, which are held three times weekly.

Cutaneous Medicine and Syphilology. Instruction consisting of lectures, seminars, the study and treatment of patients in the out-patient clinics, and on the wards is offered as an elective course.

Junior and Senior Medicine. The medical students are assigned to the medical wards as clinical clerks for three quarters of their time and to the medical out-patient department, where they examine patients, for the other part of their time.

Microbiology

DAVID T. SMITH, M.D., *James B. Duke Professor of Bacteriology, Chairman of the Department and Associate Professor of Medicine.*

NORMAN F. CONANT, Ph.D., *Professor of Mycology and Associate Professor of Bacteriology.*

JOSEPH W. BEARD, M.D., *Associate Professor of Virology and Professor of Surgery.*

SAMUEL P. MARTIN, M.D., *Assistant Professor of Bacteriology and Associate Professor of Medicine.*

HILDA POPE, Ph.D., *Assistant Professor of Bacteriology.*

MARY A. POSTON, A.M., *Associate in Bacteriology.*

SUSAN G. SMITH, A.M., *Associate in Nutrition.*

EDWARD A. ECKERT, Ph.D., *Instructor in Bacteriology.*

SUYDAM OSTERHOUT, M.D., *Instructor in Bacteriology.*

H. W. CRAIG, *Technical Associate in Seriology.*

Bacteriology, Immunology, and Mycology. The required course is given in the fourth quarter. An intensive study is made of the common bacteria, fungi, and viruses which cause disease in man. The scope of the laboratory course is reasonably wide and acquaints the student with all the methods and procedures employed in bacteriological laboratories. Most of the lecture time is devoted to the immunological and epidemiological aspects of infection. The instruction is designed to give the students a clear conception of: (1) how organisms gain entrance to the body, (2) the type of poisons which they produce, (3) the nature of immune bodies which are produced by the host, and (4) the methods of preventing the disease by active and passive immunization.

Research Bacteriology. Opportunities for original investigations are afforded a few specially qualified students.

Clinical Bacteriology. During their clinical clerkships on medicine (one quarter each for junior and senior classes), the students may perform the routine and special bacteriological work for the patients assigned to them on the teaching service, under the direction of the Department of Bacteriology and in parallel with the Biological Division of the medical clinic.

Obstetrics and Gynecology

BAYARD CARTER, M.D., *Professor of Obstetrics and Gynecology and Chairman of the Department.*

ROBERT N. CREADICK, M.D., *Associate Professor of Obstetrics and Gynecology.*

EDWIN C. HAMBLIN, M.D., *Associate Professor of Obstetrics and Gynecology and Professor of Endocrinology.*

WALTER L. THOMAS, JR., M.D., *Associate Professor of Obstetrics and Gynecology.*

ROY PARKER, M.D., *Assistant Professor of Obstetrics and Gynecology.*

VIOLET H. TURNER, M.D., *Assistant Professor of Obstetrics and Gynecology.*

ELEANOR B. EASLEY, M.D., *Associate in Obstetrics and Gynecology.*

*CHARLES H. PEETE, JR., M.D., *Associate in Obstetrics and Gynecology.*

CHRISTA VON ROEBEL, M.D., *Associate in Obstetrics and Gynecology.*

LEONARD PALUMBO, JR., M.D., *Visiting Lecturer in Obstetrics and Gynecology.*

ROBERT A. ROSS, M.D., *Visiting Lecturer in Obstetrics and Gynecology.*

TROGLER F. ADKINS, M.D., *Instructor in Obstetrics and Gynecology.*

WILLIAM A. GRAHAM, M.D., *Instructor in Obstetrics and Gynecology.*

RICHARD L. PEARSE, M.D., *Instructor in Obstetrics and Gynecology.*

KENNETH A. PODGER, M.D., *Instructor in Obstetrics and Gynecology.*

W. KENNETH CUYLER, Ph.D., *Research Instructor in Obstetrics and Gynecology Laboratory Technics.*

C. P. JONES, *Technical Research Instructor in Obstetrics and Gynecology.*

* On military leave.

Second-year students receive seventeen hours of instruction in the fundamentals of obstetrics and gynecology during their course in physical diagnosis in the sixth quarter. Clinics and demonstrations for junior and senior students are held on Saturdays at 10:30 A.M. during the Autumn, Winter, and Spring Quarters and on Mondays at 11:30 A.M. in the Summer Quarter. During one quarter of the *junior* year each group of students attends ward rounds at 8:30 A.M. on Mondays, Wednesdays, and Saturdays; preoperative conferences at 8:30 A.M. on Tuesdays and Fridays; and the out-patient clinic at 1:30 P.M. five times weekly, for nine weeks. They also attend an endocrine clinic once a week for nine weeks during the junior year. The students also spend part of each day on the wards. *Senior* students, during their surgical quarter, have ward rounds on obstetrics and gynecology on Saturdays at 8:30 A.M.

Elective courses in the diagnosis and treatment of obstetric and gynecological conditions are offered for junior and senior students.

Pathology

- WILEY D. FORBUS, M.D., *Professor of Pathology and Chairman of the Department.*
 ROGER D. BAKER, M.D., *Professor of Pathology and Chief, Pathology, V.A. Hospital.*
 BENJAMIN BARRERA, M.D., *Visiting Professor and Chairman of the Department of Pathology, University of the Philippines.*
 GEORGE MARGOLIS, M.D., *Associate Professor of Pathology.*
 E. STANFIELD ROGERS, M.D., *Assistant Professor of Pathology.*
 ALBERT G. SMITH, M.D., *Associate in Pathology and Assistant Pathologist, V.A. Hospital.*
 BERNARD F. FETTER, M.D., *Associate in Pathology.*
 WALTER R. BENSON, M.D., *Associate in Pathology.*
 DAVID S. JOHNSON, M.D., *Associate in Pathology.*
 FAUSTINO GARCIA, M.D., *Fulbright Fellow in Pathology.*
 WEN-SHIN-JEN LIN, M.D., *FOA Fellow in Pathology.*
 PECHARANONDHA KAMPHOL, M.D., *FOA Fellow in Pathology.*
 R. ALAN SCHOFIELD, M.D., *Instructor in Pathology.*
 SARA C. MCCLURE, M.D., *Instructor in Pathology.*
 ALBERTO SION, M.D., *Instructor in Pathology.*
 GUSTAVO GARZA, M.D., *Assistant in Pathology.*
 RITA J. WISSEL, M.D., *Assistant in Pathology.*
 JAMES O. WYNN, M.D., *Assistant in Pathology.*
 ROBERT TRUMBO, M.D., *Assistant in Pathology.*
 CARL BISHOP, *Technical Associate in Pathology.*
 MRS. HERTHA CRESS, M.A., *Technical Associate in Pathology.*
 J. PHILLIP PICKETT, *Technical Instructor in Pathology.*
 ROBERT T. IVEY, *Technical Instructor in Pathology.*
 MARY JANE LOCKHART, A.B., *Technical Instructor in Pathology.*

General Pathology. The course in general pathology is given during the fifth and sixth quarters of the curriculum, following completion

of the prerequisite courses in anatomy, physiology, biochemistry and bacteriology. All the work of the class is done with small groups, each under the guidance of a senior instructor and his junior assistant. The histological aspects of the pathological processes are studied coincidentally with the gross anatomical and physiological alterations of the tissues, thus maintaining a unity of conception of disease. As the various pathological processes and the diseases arising from their elaboration are studied by the student groups, assignments involving reports on the study of groups of cases are made by individual students. The group work and the individual student reports are supplemented by weekly conferences involving the class as a whole and dealing with problems presented by current autopsies and with other problems of general importance. Student collaboration in post-mortem studies is required. Cases thus studied are presented by the student before the class under the direction of the staff; this takes the form of a clinical-pathological conference in which each student plays a particular role.

Elective Courses. Special courses in pathology are given to students who have completed the course in general pathology. These courses are available through special arrangement.

Clinical-Pathological Conference. A weekly clinical-pathological conference for advanced study is held on Saturdays. It is open to all persons interested, but is designed especially for the Hospital and Medical School Staff. Attendance by all the students is expedite but is optional. Miscellaneous weekly pathological conferences dealing with current cases under treatment on the various services are held for instruction of the staffs concerned.

Student Research. Research facilities are provided for competent students. Those who show an interest in investigative work are given every encouragement and are allowed to work independently or in collaboration with the staff.

Postgraduate Instruction. The staff of the department is composed of senior nonresident and junior resident members. The resident staff consists of interns, assistant residents, and a resident; all of these are active teachers as well as advanced students of disease. Ample opportunity for the development of a career in the field of pathology is provided for these men.

Medicolegal Instruction. The department works in close cooperation with the local coroner's office. Special medicolegal investigation for others are undertaken from time to time. The department collaborates with other departments of the Schools of Medicine and Law in a course in legal medicine that is given in alternate years.

Pediatrics

JEROME S. HARRIS, M.D., *Professor of Pediatrics, Chairman of the Department, and Associate Professor of Biochemistry.*

WILBURT C. DAVISON, M.D., *James B. Duke Professor of Pediatrics and Dean of the School of Medicine.*

JAY M. ARENA, M.D., *Associate Professor of Pediatrics.*

SUSAN C. DEES, M.D., *Associate Professor of Pediatrics.*

ANGUS MCBRYDE, M.D., *Associate Professor of Pediatrics.*

WILLIAM J. A. DEMARIA, M.D., *Assistant Professor of Pediatrics.*

ATALA THAYER SCUDDER DAVISON, M.D., *Associate in Pediatrics.*

ARTHUR H. LONDON, JR., M.D., *Associate in Pediatrics.*

*MILDRED M. SHERWOOD, R.N., *Associate in Pediatrics.*

J. STREET BREWER, M.D., *Instructor in General Practice of Medicine.*

GEORGE F. BOND, M.D., *Instructor in General Practice of Medicine.*

G. GRADY DIXON, M.D., *Instructor in General Practice.*

FREDERICK T. EASTWOOD, M.D., *Instructor in Pediatrics.*

WILLIAM W. FARLEY, M.D., *Instructor in Pediatrics.*

AMOS N. JOHNSON, M.D., *Instructor in General Practice of Medicine.*

DAVID A. LOCKHART, M.D., *Instructor in Pediatrics.*

*GEORGE W. KERNODLE, M.D., *Instructor in Pediatrics.*

JOHN T. KING, M.D., *Instructor in Pediatrics.*

PAUL F. MANESS, M.D., *Instructor in Pediatrics.*

ROBERT J. MURPHY, JR., M.D., *Instructor in Pediatrics.*

BENJAMIN S. SKINNER, M.D., *Instructor in Pediatrics.*

GEORGE A. WATSON, JR., M.D., *Instructor in Pediatrics.*

BAILEY WEBB, M.D., *Instructor in Pediatrics.*

E. JANE HERRING WOOTEN, M.D., *Instructor in Pediatrics.*

Junior and senior students, during their medical quarters, have pediatric ward rounds one hour each week. These junior students receive instruction in introductory pediatrics and the physical diagnosis of infants and children. The senior students are divided into three groups, each of which spends one quarter in pediatrics. During this quarter they are assigned in rotation as clinical clerks on the children's ward, in the nursery, pediatric out-patient department and the well-baby clinics. Students may attend on a voluntary basis the special pediatric clinics—nephritis, cardiac, allergy, convulsive disorders and chronic pulmonary disease. In addition to ward rounds, a weekly staff conference and daily out-patient teaching clinics, special conferences are devoted to normal growth and development, pediatric roentgenology, practical aspects of pediatric nursing procedures and the preparation of diets for infants and children. Under the supervision of the Social Service Department, students visit homes to investigate the social, environmental and family aspects of disease in certain of their patients. Elective courses: Senior students may spend two weeks in general practice with Instructors in General Practice. In addition

* On military leave.

to the six pediatric internships, there are four in which six months each are spent in obstetrics and pediatrics for graduates who plan to enter general practice. Seven assistant residencies and one residency are available.

Physiology and Pharmacology

F. G. HALL, Ph.D., *Professor of Physiology and Chairman of the Department.*

FREDERICK BERNHEIM, Ph.D., *Professor of Pharmacology.*

GEORGE S. EADIE, Ph.D., M.B., *Professor of Physiology and Pharmacology.*

WILLIAM E. DETURK, Ph.D., M.D., *Associate Professor of Pharmacology.*

OTTO H. GAUER, M.D., *Associate Professor of Physiology and Pharmacology.*

KENNETH E. PENROD, Ph.D., *Associate Professor of Physiology and Pharmacology and Assistant Dean.*

JAMES V. WARREN, M.D., *Associate Professor of Physiology and Professor of Medicine.*

MACDONALD DICK, M.D., *Assistant Professor of Physiology and Pharmacology and Associate in Medicine.*

WAYLAND E. HULL, Ph.D., *Assistant Professor of Physiology.*

FRANK L. ENGEL, M.D., *Associate in Physiology and Associate Professor of Medicine.*

JUNE N. BARKER, M.S., *Instructor in Physiology.*

FRED ZECHMAN, M.S., *Instructor in Physiology.*

LEO OTTEY, Ph.D., *Research Fellow in Pharmacology.*

ATHOS OTTOLONGHI, M.D., *Research Fellow in Pharmacology.*

HOWARD LANGLEY, *Technical Associate in Physiology.*

The course in medical physiology is given during the sixteen weeks of the second semester of the first year. There are lectures, laboratories and conferences each week in which are presented the general principles of human physiology and their general application to the practice of medicine. The physiology and biochemistry courses are closely integrated.

The course in pharmacology is taught in the first quarter of the second year (fourth quarter). Lectures, laboratories and conferences deal with the mode of action of drugs in terms of biochemical and physiological processes.

Physiological and Pharmacological Research. The facilities of the department include modern types of research equipment. There are special facilities for research in the fields of respiration, high altitude physiology, circulation and cellular metabolism. Properly qualified students are encouraged to undertake original research in physiology and pharmacology under direction of various members of the staff.

Seminars. Each fall term a seminar for graduate students in physiology is conducted by the staff.

Preventive Medicine and Public Health

DAVID T. SMITH, M.D., *James B. Duke Professor of Bacteriology, Chairman of the Department and Associate Professor of Medicine.*

NORMAN F. CONANT, Ph.D., *Professor of Mycology and Associate Professor of Bacteriology.*

JEROME S. HARRIS, M.D., *Professor of Pediatrics and Associate Professor of Biochemistry.*

ELBERT L. PERSONS, M.D., *Associate Professor of Preventive Medicine and Public Health, Associate Professor of Medicine, Director of Student Health.*

CAROLINE HELMICK, M.D., *Associate in Preventive Medicine.*

JOHN E. LARSH, JR., Sc.D., *Associate in Parasitology.*

SIDNEY S. CHIPMAN, M.D., M.P.H., *Visiting Lecturer in Preventive Medicine and Public Health.*

BERNARD G. GREENBERG, Ph.D., *Visiting Lecturer in Preventive Medicine and Public Health.*

ROGER W. HOWELL, M.D., *Visiting Lecturer in Preventive Medicine and Public Health.*

HAROLD J. MAGNUSON, M.D., *Visiting Lecturer in Preventive Medicine and Public Health.*

EDWARD G. MCGAVRAN, M.D., M.P.H., *Visiting Lecturer in Preventive Medicine and Public Health.*

EUGENE E. TAYLOR, M.D., M.P.H., *Visiting Lecturer in Preventive Medicine and Public Health.*

W. G. BROWN, A.B., *Instructor in Preventive Medicine and Public Health.*

ALBERT D. COOPER, M.D., *Instructor in Medicine.*

JESSE H. EPPERSON, B.S., *Lecturer in Preventive Medicine and Public Health.*

D. M. WILLIAMS, B.S., *Lecturer in Preventive Medicine and Public Health.*

HILDA POPE, Ph.D., *Assistant Professor of Bacteriology.*

Preventive Medicine and Public Health. In the freshman year there are four lectures given to provide some basic orientation predicated upon the fact that disease has a community as well as a personal aspect and that the social component of illness is an important force in the work of the doctor as well as in the life of the community. The student is introduced to disease as a mass or community problem and to medicine as a social institution.

In the sophomore year there is a series of lectures and discussions, which outline in some detail the interrelationships between medicine and society. This course attempts to provide an understanding of the general principles governing the circumstances under which disease occurs and also the general principles used in the development of measures aimed at the control of disease, both communicable and non-communicable. The effect of the physical environment on human health is briefly discussed with special emphasis on the relationship of the practicing physician to environmental control programs and policies. An overview is given of the basic health problems at the various stages of life.

In alternate years, the senior and junior students meet together for eleven one-hour sessions. These sessions are devoted to discussions of

the application of the principles of preventive medicine as they can be applied by the physician in private practice. Attention is also directed to the role of community health and welfare agencies as adjuncts to the physician in the management of his individual patient. The case method of presentation and study is used, with groups of students acting as the panel of experts.

Medical Parasitology. This is a lecture and laboratory course given one morning a week in the fourth quarter. Most of the emphasis is placed on the symptomatology, diagnosis and therapy of the various helminthic and protozoal diseases in man; several periods are devoted to medical entomology.

Psychiatry

EWALD W. BUSSE, M.D., *Professor of Psychiatry and Chairman of the Department.*

BINGHAM DAI, Ph.D., *Professor of Mental Hygiene and Psychotherapy.*

LESLIE B. HOHMAN, M.D., *Professor of Psychiatry.*

HANS LOWENBACH, M.D., *Professor of Psychiatry.*

LOUIS D. COHEN, Ph.D., *Associate Professor of Clinical Psychology, Associate Professor of Psychology.*

ROBERT H. BARNES, M.D., *Associate Professor of Psychiatry.*

R. CHARMAN CARROLL, M.D., *Assistant Professor of Psychiatry.*

JOHN A. FOWLER, M.D., *Assistant Professor of Psychiatry.*

GEORGE A. SILVER, M.D., *Assistant Professor of Psychiatry.*

R. BURKE SUITT, M.D., *Assistant Professor of Psychiatry.*

ROBERT L. CRAIG, M.D., *Associate in Psychiatry.*

JEWETT GOLDSMITH, M.D., *Associate in Psychiatry.*

ALBERT J. SILVERMAN, M.D., *Associate in Psychiatry.*

JOHN B. K. SMITH, M.D., *Associate in Psychiatry.*

SANFORD GOLDSTONE, Ph.D., *Lecturer in Psychology and Associate in Clinical Psychology.*

EDWARD E. JONES, Ph.D., *Associate in Clinical Psychology and Assistant Professor of Psychology.*

MARIE BALDWIN, M.D., *Instructor in Psychiatry.*

MACHAEL J. KEITH, M.B., *Instructor in Psychiatry.*

DAVID A. YOUNG, M.D., *Lecturer in Psychiatry.*

DONALD K. ADAMS, Ph.D., *Consultant, Professor of Psychology.*

JOHN GILLIN, Ph.D., *Consultant, Professor of Anthropology.*

WESTON LABARRE, Ph.D., *Consultant, Professor of Anthropology.*

A. A. FOSTER, *Technical Instructor in Psychiatry.*

Instruction starts in the first year with an introductory course in psychiatry. In the second year, methods of psychiatric examination and a general presentation of the main reaction types are given. Each third-year student has a two-week clerkship on the psychiatric ward, and in the fourth year patients are worked up in the out-patient clinic for a period of three and a half weeks. A psychiatric amphitheater clinic is held weekly throughout the year for third- and fourth-year students.

Elective courses in psychiatric methods of research, physiological aspects of psychiatry, psychosomatic medicine, psychoanalysis in medicine, and principles of psychotherapy are offered to fourth-year students. Students are invited to attend the staff case conferences, the psychosomatic conferences and the conferences on psychiatric disorders of childhood. Emphasis is placed upon the close relationship of psychiatry to other branches of medicine and the social sciences. Internships are available in psychiatry with the expectation that they will lead to progressively greater interest in psychiatric problems encountered on all other services in the Hospital. Graduate training in psychiatry meeting the requirements of the American Board of Psychiatry and Neurology is given. Regular courses in conjunction with the Veterans Administration Hospital training program are available. Investigation is encouraged.

Radiology

ROBERT J. REEVES, M.D., *Professor of Radiology and Chairman of the Department.*

GEORGE J. BAYLIN, M.D., *Professor of Radiology and Associate in Anatomy.*

AUBREY T. HORNSBY, M.D., *Assistant Professor of Radiology.*

S. PAUL PERRY, M.D., *Assistant Professor of Radiology.*

SIMMONS I. PATRICK, M.D., *Associate in Radiology.*

JOHN F. SHERRILL, JR., M.D., *Instructor in Radiology.*

CYRUS L. GRAY, M.D., *Visiting Lecturer in Radiology.*

GUY W. SCHLASEMAN, M.D., *Visiting Lecturer in Radiology.*

ALLEN TAYLOR, M.D., *Visiting Lecturer in Radiology.*

THOMAS G. THURSTON, M.D., *Visiting Lecturer in Radiology.*

The student teaching schedule in roentgenology consists of a course in roentgen diagnosis and a course in therapeutic radiology. The first is offered during each scholastic quarter on Tuesday and Thursday of each week. The fundamental physics of x-ray is discussed, with the chief emphasis being placed upon the anatomical, pathological and physiological bases for the interpretation of x-ray films. The course is conducted in seminar fashion and no formal lectures are given. The students participate in and lead discussions with the instructor serving as the moderator. An attempt is made to acquaint the student with the aids of roentgenology in diagnostic problems. The correct use of x-rays in diagnosis is stressed.

Therapeutic radiology is given one hour weekly during each quarter. At these sessions the general problem of the treatment of benign, inflammatory and malignant lesions by x-ray and radium is discussed and the accepted views of the combination of these therapeutic agents with surgery is stressed. Representative cases are demonstrated, and the follow-up results are particularly stressed.

A limited number of senior students are permitted to attend rou-

tine film reading sessions in the Department of Radiology. They are also instructed in the fundamentals of fluoroscopic examinations and shown the many pitfalls of the inexperienced fluoroscopist.

X-ray conferences are scheduled with each specialty in the X-ray Conference room with weekly schedules. All x-ray cases on that service the preceding week are shown and briefly discussed for benefit of the house staff and attending students. At the present weekly conferences including the Ear, Nose and Throat, Orthopaedics, Neurosurgery, Thoracic surgery, Pediatrics, Cardiac, Gastro-intestinal, Urology are held and used as part of the teaching program. Tuesday and Friday afternoons special x-ray conferences of x-ray pathology are held. X-ray Pathology conference 5 to 6 P.M. each Wednesday afternoon is given in the autopsy room.

Each Thursday afternoon and Wednesday evening a conference is held by the members of the x-ray staff and visiting radiologists. Difficult cases are brought up for discussion and diagnosis.

Surgery

DERYL HART, M.D., *Professor of Surgery and Chairman of the Department.*

EDWIN P. ALYEA, M.D., *Professor of Urology.*

W. BANKS ANDERSON, M.D., *Professor of Ophthalmology.*

LENOX D. BAKER, M.D., *Professor of Orthopaedic Surgery.*

JOSEPH W. BEARD, M.D., *Professor of Surgery in Charge of Experimental Surgery and Associate Professor of Virology.*

JOHN E. DEES, M.D., *Professor of Urology.*

WATT W. EAGLE, M.D., *Professor of Otolaryngology.*

CLARENCE E. GARDNER, JR., M.D., *Professor of Surgery.*

KEITH S. GRIMSON, M.D., *Professor of Surgery.*

GUY L. ODOM, M.D., *Professor of Neurosurgery.*

KENNETH L. PICKRELL, M.D., *Professor of Plastic and Maxillofacial Surgery.*

C. RONALD STEPHEN, M.D.C.M., D.A., *Professor of Anesthesiology and Chief of Division of Anesthesiology.*

BARNES WOODHALL, M.D., *Professor of Neurosurgery.*

RALPH A. ARNOLD, M.D., *Associate Professor of Otolaryngology and Ophthalmology.*

HOWARD M. AUSERMAN, M.D., *Associate Professor of Anesthesiology and Chief of Anesthesiology, V.A. Hospital.*

JOHN P. COLLINS, M.D., *Associate Professor of Surgery and Chief of Surgical Service, V.A. Hospital.*

J. LEONARD GOLDNER, M.D., *Associate Professor of Orthopaedic Surgery.*

RUTH CAMPBELL MARTIN, M.D., *Associate Professor of Anesthesiology.*

WILL C. SEALY, M.D., *Associate Professor of Surgery, in Charge of Division of Thoracic Surgery.*

JAMES H. SEMANS, M.D., *Associate Professor of Urology.*

D. GORDON SHARP, Ph.D., *Associate Professor of Biophysics in Experimental Surgery.*

FREDERICK W. STOCKER, M.D., *Associate Professor of Ophthalmology.*

WILLIAM G. ANLYAN, M.D., *Assistant Professor of Surgery.*

ALEXANDER W. BOONE, M.D., *Assistant Professor of Urology.*

IVAN W. BROWN, JR., M.D., *Assistant Professor of Surgery.*

- RICHARD G. CONNAR, M.D., *Assistant Professor of Surgery and Chief of Thoracic Surgical Service, V.A. Hospital.*
- NICHOLAS G. GEORGIADIS, M.D., *Assistant Professor of Plastic Surgery.*
- RODERICK ORMANDY, Ph.D., *Assistant Professor of Medical Speech Pathology.*
- WILLIAM W. SHINGLETON, M.D., *Assistant Professor of Surgery.*
- THEODORE W. ATWOOD, D.M.D., *Associate in Dentistry.*
- DOROTHY WATERS BEARD, R.N., *Associate in Surgery and Research Associate in Experimental Surgery.*
- BYRON M. BLOOR, M.D., *Associate in Neurosurgery and Chief of Neurosurgical Service V.A. Hospital.*
- EVERETT I. BUGG, JR., M.D., *Associate in Orthopaedics.*
- LEE J. CORDREY, M.D., *Associate in Orthopaedics and Chief, Orthopaedic Section, V.A. Hospital.*
- ALFRED N. COSTNER, M.D., *Associate in Ophthalmology.*
- GEORGE A. ECKERT, Ph.D., *Research Associate in Experimental Surgery and Instructor in Bacteriology.*
- GEORGE B. FERGUSON, M.D., *Associate in Bronchoscopy.*
- HELEN ELIZABETH HALL, M.D., *Associate in Anesthesiology and Assistant Chief of Anesthesiology, V.A. Hospital.*
- NORMAN F. ROSS, D.D.S., *Associate in Dentistry and Acting Head of the Division of Dentistry.*
- H. MAX SCHIEBEL, M.D., *Associate in Surgery.*
- ROBERT L. BENNETT, M.D., *Lecturer in Physical Medicine.*
- MICHEL BOURGEOIS-GAVARDIN, M.D., *Visiting Lecturer in Anesthesiology.*
- CHARLES E. IRWIN, M.D., *Lecturer in Orthopaedics.*
- JULIAN E. JACOBS, M.D., *Lecturer in Orthopaedics.*
- GEORGE R. MILLER, M.D., *Lecturer in Orthopaedics.*
- OSCAR L. MILLER, M.D., *Lecturer in Orthopaedics.*
- R. BEVERLY RANEY, M.D., *Lecturer in Orthopaedics.*
- WILLIAM MCK. ROBERTS, M.D., *Lecturer in Orthopaedics.*
- FRANK H. STELLING, M.D., *Lecturer in Orthopaedics.*
- FRANKLIN E. ALTANY, M.D., *Instructor in Surgery.*
- WILLIAM W. BECKNER, JR., M.D., *Instructor in Ophthalmology and Otolaryngology.*
- EUGENE E. BLECK, M.D., *Instructor and Fellow in Orthopaedics.*
- GORDON M. CARVER, JR., M.D., *Instructor in Surgery.*
- THOMAS B. DAMERON, M.D., *Instructor in Orthopaedics.*
- MARCUS L. DILLON, JR., M.D., *Instructor in Surgery.*
- BENJAMIN H. FLOWE, M.D., *Instructor in Surgery.*
- LEE D. GARTNER, M.D., *Instructor in Urology.*
- JOHN GLASSON, M.D., *Instructor in Orthopaedics.*
- ROBERT A. GOWDY, M.D., *Instructor in Surgery.*
- CHARLES E. HORTON, M.D., *Instructor in Plastic Surgery.*
- ROBERT L. A. KEELEY, M.D., *Instructor in Surgery.*
- EUGENE J. LINBERG, M.D., *Instructor in Surgery.*
- FRANK H. LONGINO, M.D., *Instructor in Surgery.*
- CARTER P. MAGUIRE, M.D., *Instructor in Plastic Surgery.*
- WALTER R. NEILL, M.D., *Instructor in Neurosurgery.*
- MOHAMED EL-HADI SALEM, M.B.B.Ch., D.S., *Instructor in Surgery.*
- BAXTER B. SAPP, JR., D.D.S., *Instructor in Dentistry.*

J. LEWIS SMITH, M.D., *Instructor in Surgery.*
ROBERT B. TRUMBO, M.D., *Instructor in Surgery.*
CLARK A. WHITEHORN, M.D., *Instructor in Urology.*
FRANK R. WRENN, JR., M.D., *Instructor in Urology.*
W. GLENN YOUNG, JR., M.D., *Instructor in Surgery.*
CHESTER R. TAYLOR, *Technical Associate in Surgery.*
WILLIAM J. THOMAS, *Technical Instructor in Surgery.*
BERT R. TITUS, *Technical Associate in Orthosis.*

Introduction to Surgical Technique. This course is given in the 5th quarter of the curriculum and is designed primarily for instruction and practice in the principles of asepsis and their application in surgery. This is accomplished through the medium of a series of major operative procedures on animals under conditions closely simulating those in human surgery. In the process, the student receives intensive training in the techniques fundamental to operative surgery and to the principles and practice of surgical anesthesia.

General Surgery. In the sixth quarter the students, during their course in physical diagnosis, attend clinics and demonstrations arranged to familiarize them with the techniques of examinations and diagnostic procedures used in general surgery and the surgical specialties. They also have the opportunity in this quarter to become familiar with certain basic principles in aseptic and atraumatic surgery and in isolation technique. The *junior* students, during their surgical quarter, attend ward rounds in surgery and the surgical specialties, act as clinical clerks on the wards and assist in the operative treatment of patients assigned to them. The surgical students in the *senior* year attend ward rounds in general surgery and the surgical specialties in the mornings and assist in the surgical out-patient clinics in the afternoon. Also in groups of two for the proportionate time available they are assigned to the emergency division of the out-patient clinic where they assist in the diagnosis and care of urgent conditions.

Otolaryngological Division. An introductory course of instruction in the use of otolaryngological instruments, with a review of normal anatomy, is given to second-year students in the sixth quarter. Clinics during all quarters of the year are given to junior students; students during their surgical quarter work in the otolaryngological out-patient clinic as assigned. Ward rounds are held separately each week for third- and fourth-year students. Patients are assigned to junior students during the surgical quarter.

Ophthalmological Division. During the sixth quarter second-year students receive instruction in elementary ophthalmology. During the junior surgical quarter the students may elect to work in the ophthalmological out-patient clinic as assigned, and assist in the study and treatment of eye diseases. Especial emphasis is placed on the underlying medical and surgical conditions. Each student follows through-

out his time in the out-patient clinic all patients assigned to him. For those who manifest an unusual interest in this specialty, provision will be made for more advanced work. Throughout the junior surgical quarter the students attend ophthalmological ward rounds for two hours each week. During either their third or fourth academic year clinics covering the more general neuro-ophthalmological and medical problems are given.

Orthopaedic Division. In the sixth quarter an introductory course is given. During the surgical quarters the junior and senior students attend weekly ward rounds of one hour each in orthopaedics and fractures. Students in their senior surgical quarter are assigned in rotation to the orthopaedic out-patient clinic. These students also attend orthopaedic staff rounds at 5:30 P.M. Mondays through Fridays. An elective course in the treatment of fractures, limited to three students, is offered during the junior and senior surgical quarters. An elective course in physical therapy is also offered during these quarters. Arrangements may be made for students who so desire to do research or experimental work. They may also attend the state orthopaedic clinics as held.

Urologic Division. In the sixth quarter, second-year students are given a course of lectures and practical demonstrations in urologic physical diagnosis in the normal individual. Ward rounds on urologic patients are given every Saturday at 8:30 A.M. for third- and fourth-year students in their surgical quarter. Small groups are selected from the senior surgical group of students and assigned in rotation to the urologic out-patient clinic. During one quarter of the year, urologic clinics are given weekly for the junior and senior classes. These clinics deal with the affections of the male and female urinary tract and of the male genital tract. Clinics for urethroscopic and cystoscopic investigation and for the more technical methods of urologic diagnosis and treatment are held Monday, Wednesday, and Thursday from 1:30 to 5:00 P.M. and Tuesdays and Thursdays from 9:30 A.M. to 12:30 P.M. throughout the year. X-ray conferences on all urologic cases are held Tuesday, Thursday, and Saturday mornings from 8:30 to 10:00 and are followed by staff rounds. Three senior students may select one of these cystoscopic clinics, x-ray conferences, and staff rounds as an elective. *The Urologic Journal Club* meets each week, and members of the staff review their respectively assigned journals. Interested students are welcome. Urologic pathology conferences are held twice a month throughout the year with the cooperation of the Pathology Department.

Division of Plastic, Maxillofacial, and Oral Surgery. Didactic lectures are given to both the third- and fourth-year students to familiarize them with the basic principles of plastic, reconstructive, and de-

structive procedures. Bedside ward rounds and demonstrations are held twice weekly to illustrate these basic phenomena of trauma, disease, and reconstruction. Fourth-year students work in the Plastic Surgical Clinic which meets daily, with special reference on Wednesday which is the Plastic Surgical and Oncology return or follow-up day. Opportunity is afforded interested students to observe moulage and cast work, cosmetic restoration of color, the making of prosthetic appliances, etc. The Oral Surgical Clinic has three dentists and oral surgeons in attendance and is in operation five and one-half days each week. Associated closely and allied with the plastic surgical service, is the Medical Speech Pathologist and Audiologist, who has charge of the Speech Correction Program.

The Division of Medical Speech Pathology will work in close cooperation with the Division of Plastic and Oral Surgery, the Division of Otolaryngology, and the Departments of Pediatrics and Psychiatry. Weekly lectures are given to familiarize students with the various types of speech defects and abnormalities which are encountered in both children and adults. The pre- and postoperative followup cleft palate patients are seen and evaluated each Wednesday afternoon in conjunction with the Plastic Surgical Clinic. Clinics will be arranged as desired with other departments. Speech instruction and therapy are given daily by appointment.

Neurosurgical Division. During all four quarters, separate weekly ward rounds are held for the junior and senior surgical groups. Emphasis in these rounds is placed upon the recognition of neurosurgical problems, followed by observation of the operative and post-operative procedures. Weekly x-ray and pathological conferences are held, and these may be attended by interested individuals. Tumor clinic conferences are held bi-monthly, on each second and third Thursday of the month.

Division of Thoracic Surgery. During the academic year ward rounds, lectures and demonstrations are held to acquaint the third- and fourth-year students with the principles and practice of surgery of the chest. The anatomy and physiology of the respiration and circulation are reviewed and their application to thoracic surgery is stressed. X-ray diagnosis is emphasized and frequent pathology conferences are held to give the students a well-rounded knowledge of the surgical diseases of the chest.

Dentistry. Second-year students, in the sixth quarter, are instructed in the principles of dentistry.

Division of Anesthesiology. Junior and senior students, are given a series of lectures by the medical anesthesiologists in the Amphitheatre during the surgical lecture hour. Following a brief history of anesthetic drugs, the response of the body to such drugs is discussed.

The physiological basis of the reactions encountered in the operating room is stressed and the rational for choice of agents for various patients is presented. A six days' concentrated course of training in the administration of anesthetic agents is given to each senior medical student during the senior surgical quarter. These students observe and administer anesthetics under the supervision of staff anesthetists.

Legal Medicine Toxicology

HAYWOOD M. TAYLOR, Ph.D., *Professor of Toxicology and Associate Professor of Biochemistry.*

J. B. BRADWAY, A.M., LL.B., *Professor of Law.*

E. C. BRYSON, LL.B., *Associate Professor of Law.*

W. D. FORBUS, M.D., *Professor of Pathology.*

D. T. SMITH, M.D., *Professor of Bacteriology and Associate Professor of Medicine.*

This course embraces a discussion of the relation of physicians to legal criminal procedures, jurisdiction of the coroner and medical examiner, laws governing the dead human body, personal identity of the living, and the dead, the medicolegal autopsy, traumatic, injuries and fractures, rape, abortion, asphyxial death, homicidal, suicidal, and industrial poisoning, alcoholism, the examination of blood, stains, fibers, and the detection of malingering. This course is open to junior and senior students and is given in alternate years. Discussions of medicolegal problems for the house staff and senior students, and joint conferences of the medical and law students also are held.

Undergraduate Cancer Training Program

(Supported by a grant in aid from the U. S. Public Health Service)

Coordinator: WILEY D. FORBUS, M.D.

Basic Science Teaching Fellow: DAVID S. JOHNSON, M.D.

Clinical Teaching Fellow: GORDON CARVER, M.D.

Social Service Worker: ISABEL PELTON.

During the first quarter, a course in surgical pathology is available to interested senior students. Classes are held twice weekly; each class is two hours. The sessions are informal. Gross and microscopic materials with clinical abstracts are readily available. Clinico-pathological correlation is stressed throughout the course.

During the second and third quarters, weekly seminars are held on various phases of the tumor problem. Clinico-pathological correlation is stressed as the viewpoints of the clinician, radiologist, and pathologist are presented. General practitioners, members of the clergy, the social service division, and nursing staff are invited to discuss certain aspects in the care of patients with neoplasms.

In addition, the Undergraduate Cancer Training Program staff participates in the teaching of neoplasia to the sophomore students. This is done as a supplementary program to the students as they are being taught the principles of neoplastic disease by the Department of Pathology. New material is presented to them, and here the clinico-pathological approach to the problem of neoplasia has special emphasis. In this phase of the program those regions of the body in which the frequency of tumors is highest are selected for study.

The Program, through its secretarial and social service personnel and its follow-up studies, is a valuable adjunct in the clinical training of the students. Contact is maintained with discharged patients and regularly scheduled appointments are made for their return visits to the various outpatient departments for periodic evaluation and indicated therapy. The program maintains an active tumor registry and, through the secretarial staff, this information is made available for study of particular phases of the tumor program.

A special feature of this teaching activity is the individual student project program. Twenty tumor study projects are planned for volunteer students, each project dealing with a particular problem in neoplasia. These projects are undertaken by students entering their third undergraduate year and continue through the fourth undergraduate year. This program is under the direction of the Coordinator, each student being guided in the accomplishment of his project by a member of the clinical staff who serves as his personal tutor.

Duke Hospital

Administrative Staff

- F. ROSS PORTER, A.B., *Superintendent and Professor of Hospital Administration.*
J. MINETREE PYNE, B.S., *Assistant Superintendent and Assistant Professor of Hospital Administration.*
LOUIS E. SWANSON, A.B., *Assistant Superintendent and Assistant Professor of Hospital Administration.*
DEWITT WRIGHT, B.S., J.D., *Assistant Superintendent and Associate in Hospital Administration.*
JOHN M. MCBRYDE, A.B., *Administrative Assistant.*
RICHARD A. BINDEWALD, A.B., *Personnel Officer.*

Private Diagnostic Clinic Staff

- C. H. COBB, Ph.G., *Business Manager, Medical Division.*
HENRY BERTRAND, B.B.A., B.S., *Assistant Business Manager, Medical Division.*
E. S. RAPER, A.B., *Business Manager, Surgical Division.*
R. N. CRENSHAW, *Assistant Business Manager, Surgical Division.*

Department Heads

- CHARLES RONALD STEPHEN, M.D., C.M.D.A., *Chief Anesthetist and Professor of Anesthesiology.*
ROBERT J. REEVES, M.D., *Chief Radiologist and Professor of Radiology.*
RUSSELL L. DICKS, A.B., B.D., D.D., *Chaplain.*
LELIA CLARK, R.N., M.A., *Director of Nursing Service.*
MRS. ELSIE W. MARTIN, M.S., *Director and Professor of Dietetics.*
I. THOMAS REAMER, Ph.G., *Pharmacist and Associate in Pharmacy.*
REBA NEW HOBGOOD, *Public Dispensary.*
JANET WIEN, A.B., M.S., *Director and Assistant Professor of Social Service.*
J. HARNED BUFKIN, R.N., R.R.L., *Record Librarian and Assistant Professor of Medical Record Library Science.*
HELEN LOUISE KAISER, R.P.T., *Director and Assistant Professor of Physical Therapy.*
CORNELIA WATSON, B.S., *Occupational Therapist.*
BERT R. TITUS, *Braces and Instruments and Technical Instructor in Orthosis.*
ELON HENRY CLARK, *Medical Artist and Professor of Medical Art and Illustration.*
MRS. MARTHA J. SCOGGINS, *Executive Housekeeper.*
FLINTON CARDEN, *Multilith Department.*
LEATRICE EMORY, *Electrocardiograph and Basal Metabolism Laboratory.*
PRESTON SMITH, *Technical Associate, Private Medical Laboratory.*
JOHN SESSOMS, *Manager, Hospital Laundry.*

House Staff 1954-1955

RESIDENTS

- ANIBAL ADAN, M.D., *Anesthesiology*.
 FRANKLIN ALTANY, M.D., *Surgery*.
 RAUL AMENABAR, M.D., *Orthopaedics*.
 FRANK ANDERSON, M.D., *Pediatrics*.
 JAMES ANDREWS, M.D., *Pathology*.
 KATHERINE BACHMAN, M.D., *Pediatrics*.
 JAMES BACOS, M.D., *Medicine*.
 G. E. BELL, M.D., *Orthopaedics*.
 RODRIGO BERNAL, M.D., *Anesthesiology*.
 ANTONIO BERRIOS, M.D., *Orthopaedics*.
 RICHARD BLAISDELL, M.D., *Pathology*.
 E. E. BLECK, M.D., *Orthopaedics*.
 MORTON BOGDONOFF, M.D., *Medicine*.
 STUART BONDURANT, M.D., *Medicine*.
 RICHARD BOWLES, M.D., *Pediatrics*.
 BASIL BOYD, M.D., *Orthopaedics*.
 TEODORO BRAGANZA, M.D., *Psychiatry*.
 GEORGE BRICE, M.D., *Pediatrics*.
 R. H. BROWN, M.D., *Orthopaedics*.
 LEONARD A. BURGIN, M.D., *Medicine*.
 WILLIAM BUTLER, M.D., *Obstetrics*.
 GORDON CARVER, M.D., *Surgery*.
 WALTER B. CHERNY, M.D., *Obstetrics*.
 J. RAYMOND CHITTUM, M.D., *Surgery*.
 JAMES CHRISTOFFERSON, M.D.,
Anesthesiology.
 FRANK CLIPPENGER, M.D., *Orthopaedics*.
 SANFORD COHEN, M.D., *Psychiatry*.
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 FRANK B. COOPER, M.D., *Ophthalmology*.
 HUGH CRAWFORD, M.D., *Plastic Surgery*.
 ROBERT CRESS, M.D., *Medicine*.
 ROBERT CROUCH, M.D., *Urology*.
 GEORGE D'ANGELO, M.D., *Surgery*.
 GEORGE DELAUGHTER, M.D., *Surgery*.
 SARA DENT, M.D., *Anesthesiology*.
 L. MARCUS DILLON, M.D., *Surgery*.
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 ROY J. ELLINSON, M.D., *Psychiatry*.
 GEORGE F. ELSASSER, M.D., *Medicine*.
 EUGENE A. EVANS, M.D., *Medicine*.
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 KENNETH HALL, M.D., *Anesthesiology*.
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 CAROLYN HUNTLEY, M.D., *Allergy*.
 JOSEPH K. ISLEY, M.D., *Radiology*.
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 RUPERT KERR, M.D., *Obstetrics*.
 HANS LEEN, M.D., *Anesthesiology*.
 EUGENE J. LINBERG, M.D., *Surgery*.
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INTERNS

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 FARROKH SAIDI, M.D., *Medicine*.
 WAYNE SCHULTZ, M.D., *Medicine*.

MADISON SPACH, M.D., *Medicine*.
 DELFORD STICKEL, M.D., *Surgery*.
 W. CLINTON TALLEY, M.D., *Surgery*.
 DEWEY REID TICKLE, M.D., *Medicine*.
 CORBIN TURNER, M.D., *Pediatrics*.
 JOHN VERNER, M.D., *Medicine*.
 TOM VESTAL, M.D., *Medicine*.
 ROY WIGGINS, M.D., *Medicine*.
 J. B. WILLIAMS, M.D., *Obstetrics*.
 RITA WISSEL, M.D., *Pathology*.
 JAMES O. WYNN, M.D., *Pathology*.
 HAROLD YOUNT, M.D., *Pediatrics*.
 ROBERT ZADEK, M.D., *Surgery*.

Internships and Residencies

Straight internships of one year duration are available in Medicine, Surgery, Obstetrics-Gynecology, Pediatrics, Psychiatry and Pathology. Mixed internships are available in Obstetrics and Pediatrics. A stipend of \$25 per month is offered in Medicine, Surgery and Pediatrics plus room, board, laundry and uniforms. An allowance of \$12.50 is paid to married house officers in lieu of a room in the house staff quarters. Appointments are from July 1 through June 30, although special arrangements can be made with individual department heads.

Assistant Residencies and Residencies are available in the following services.

Service

Internal Medicine

Allergy
 Cardiovascular Diseases
 Dermatology-Syphilology
 Gastroenterology
 Neurology
 Pulmonary Diseases

Surgery-General

Neurology-Surgery
 Ophthalmology
 Otolaryngology
 Orthopaedic Surgery
 Plastic Surgery
 Thoracic Surgery
 Urology
 Oral Surgery (Dentistry)

Pediatrics

Pediatrics and Obstetrics

Obstetrics and Gynecology

Endocrinology

Psychiatry

Anesthesia

Pathology

Radiology

Chief of Department

Eugene A. Stead, Jr., M.D.
 Oscar C. E. Hansen-Prüss, M.D.
 Edward S. Orgain, M.D.
 J. Lamar Callaway, M.D.
 Julian M. Ruffin, M.D.
 E. Charles Kunkle, M.D.
 Elijah E. Menefee, Jr., M.D.
 Deryl Hart, M.D.
 Barnes Woodhall, M.D.
 W. Banks Anderson, M.D.
 Watt W. Eagle, M.D.
 Lenox D. Baker, M.D.
 Kenneth L. Pickrell, M.D.
 Will C. Sealy, M.D.
 Edwin P. Alyea, M.D.
 Nicholas Georgiade, M.D.
 Jerome S. Harris, M.D.
 Jerome S. Harris, M.D.
 Bayard Carter, M.D.
 E. C. Hamblen, M.D.
 Ewald W. Busse, M.D.
 C. Ronald Stephen, M.D.
 Wiley D. Forbus, M.D.
 Robert J. Reeves, M.D.

Application forms for all internships may be obtained by writing to the Superintendent, Duke Hospital, Durham, North Carolina. Graduates of any Class A medical school are eligible for internships. Appointments are open to women and to graduates of accredited foreign medical schools. Duke Hospital participates in the National Intern Matching Program, Inc.

After completion of an internship in Duke Hospital or in another acceptable hospital, a certain number may be appointed as assistant residents in the above listed specialties plus Biochemistry, the Student Health Service or as fellows of the Private Diagnostic Clinics at a salary of \$250 to \$800 per year plus maintenance. A smaller number may be eventually promoted to the residency in the above listed services at an annual salary of \$500 to \$1300 per year plus maintenance. Application should be made to the head of the department concerned.

The Hospital and School of Medicine are an integral part of the Duke University campus, and its educational, recreational and athletic facilities are available for the Resident Staff.

The Veteran's Hospital opened on April 6, 1953 and located within walking distance of Duke Hospital, is integrated with the Duke Hospital house staff training program. House officers on certain services may be assigned to either hospital for parts of a year. Administratively, the hospitals are separate but educationally they are closely integrated. The Medical Staff of the Veteran's Hospital is supervised by a Dean's Committee composed of faculty members of the Duke School of Medicine. Certification of training is provided by Duke Hospital.

Postgraduate Study

Graduates in medicine are welcomed at the various clinics and demonstrations in medicine, surgery, obstetrics, and other specialties, which are held from 9:30 A.M. to 12:30 P.M. each Saturday, as well as at the daily ward-rounds in the mornings, and the out-patient clinics in the afternoons. They can start at any time and remain as long as they wish. Additional special work in any department for a period of not less than three months may be arranged by consultation with the head of the department concerned. A certain number of residencies also are available at Duke Hospital in medicine, surgery, obstetrics and gynecology, pediatrics, psychiatry, neurology, dermatology, orthopaedics, urology, otolaryngology, ophthalmology, roentgenology, pathology, and biochemistry. Further information can be obtained by writing to the Dean.

Returning veterans are requested to register on arrival at the Dean's office, and with Mr. Oscar Petty, Jr., 102A Allen Building, who will assist them in applying for Veteran's benefits.

Durham Veterans Administration Hospital

Dean's Committee of the Durham V. A. Hospital

J. D. MYERS (Chairman), BAYLIN, BUSSE, DAVISON, FORBUS, HART, MARGOLIS, RIEVES
ROSS, SHINGLETON, SILVER and STEAD.

Administrative Staff

JOHN J. TYSON, M.D., *Manager.*
REUBEN S. NEWSOME, *Assistant Manager.*
ALBERT E. PUGH, M.D., *Chief, Professional Services.*

Professional Services

ROGER D. BAKER, M.D., *Chief, Laboratory Service.*
JOHN P. COLLINS, M.D., *Chief, Surgical Service.*
WILLIAM J. DEISS, JR., M.D., *Director, Radioisotope Unit.*
AUBREY T. HORNSBY, M.D., (part-time), *Acting Chief, Radiology Service.*
JAMES M. JOYNER, *Chief, Medical Illustration Service.*
GERTRUDE A. McDONALD, B.S., *Chief, Dietetic Service.*
SARA W. MOORE, M.A., *Chief, Social Service.*
JOSEPH B. PARKER, JR., M.D., *Chief, Psychiatry Service.*
KENNETH R. PFEIFFER, D.D.S., *Chief, Dental Service.*
JAMES H. PITTMAN, B.S., *Chief, Pharmacy Service.*
PAUL F. RICHARDSON, M.D., *Chief, Physical Medicine and Rehabilitation Service.*
WILLIAM B. TUCKER, M.D., *Chief, Pulmonary Disease Service.*
JAMES V. WARREN, M.D., *Chief, Medical Service.*
SADIE L. WHELESS, A.M., *Chief, Nursing Service.*

A 485-bed general medical and surgical Veterans Administration Hospital is located contiguous to the Duke Campus and is operated under the supervision of the above Dean's Committee from Duke University School of Medicine. The full-time professional staff of the Veterans Hospital are all members of the Duke faculty. Residency programs are conducted in Medicine, Neurology, General Surgery, Anesthesiology, Neurosurgery, Ophthalmology and Otolaryngology, Orthopaedics, Plastic Surgery, Urology, Pathology, Psychiatry, Radiology, and Oral Surgery—all closely integrated with corresponding programs at Duke Hospital. The Veterans Hospital, as affiliated with

Duke Hospital, is accredited for residency training in all of the above specialties. A straight medical internship is also provided at the Veterans Hospital; this again is integrated with the medical internship at Duke Hospital. Inquiries and applications for residencies and the medical internship should be made to the above listed staff members. Clinical and Research Fellowships are also offered in the various specialties.

Paramedical Courses at Duke Hospital

Paramedical Coordinating Committee

KENNETH E. PENROD (Chairman), IVAN W. BROWN, JOHN CAHOON, LELIA CLARK,
NORMAN F. CONANT, PHILIP HANDLER, J. HARNED BUFKIN, HELEN KAISER, JOSEPH
E. MARKEE, LOUIS E. SWANSON, HAYWOOD M. TAYLOR.

Hospital Administration

Eight internships in hospital administration leading to a certificate are available to university graduates whose character, tact, and ability for leadership are good, and whose academic standing is high. These internships are of two years' duration and pay a small salary in addition to room, board, and laundry. Vacations of two weeks are allowed during each year of internship.

The instruction is practical rather than theoretical in emphasis. The interns are rotated through seven different assistant administrative positions in the Hospital. There is also a weekly seminar lasting two hours and two classes lasting one hour each during the week.

The interns may register in the Graduate School of Duke University, and receive the A.M. degree after the successful completion of a thesis and twenty-four semester hours of university courses in various fields. This additional work will add one year to the program. Further information may be obtained by writing to the Superintendent, Duke Hospital, Durham, N. C.

Staff in Hospital Administration

F. ROSS PORTER, A.B., *Superintendent and Professor of Hospital Administration.*

LOUIS E. SWANSON, A.B., *Assistant Superintendent and Assistant Professor of Hospital Administration.*

J. MINETREE PYNE, B.S., *Assistant Superintendent and Assistant Professor of Hospital Administration.*

DEWITT WRIGHT, B.S., J.D., *Assistant Superintendent and Associate in Hospital Administration.*

JOHN MCBRYDE, A.B., *Administrative Assistant.*

C. H. COBB, Ph.G., *Member Admissions Committee and Lecturer.*

E. S. RAPER, A.B., *Member Admissions Committee and Lecturer.*

Students in Hospital Administration

HENRY F. MABRY, A.B., *Administrative Intern.*
 HUMBERTO ECHEVERRI, A.B., *Administrative Intern.*
 ALBERT J. MALIK, B.S., *Administrative Intern.*
 DONALD C. MCGRATH, *Administrative Intern.*
 JULIUS WAITS, A.B., *Administrative Intern.*
 JAMES A. McNAB, B.C.E., *Administrative Intern.*
 THOMAS PETERS, III, M.A.E., *Administrative Intern.*
 RALPH JENNINGS, B.S., *Administrative Intern.*
 WILLIAM A. TAYLOR, A.B., *Administrative Intern.*

Visiting Lecturers

WATSON S. RANKIN, M.D., DSc., *Visiting Lecturer in Hospital Administration.*
 MARSHALL I. PICKENS, M.A., *Associate in Hospital Administration.*
 GEORGE P. HARRIS, A.B., *Instructor in Hospital Administration.*
 JAMES R. FELTS, JR., *Instructor in Hospital Administration.*
 JOHN J. TYSON, M.D., *Assistant Professor of Hospital Administration.*
 CHARLES E. PRALL, Ph.D., *Visiting Lecturer in Hospital Administration.*
 E. C. BRYSON, LL.B., *Associate Professor of Law, Duke University and Instructor in Hospital Administration.*
 J. LYMAN MELVIN, *Administrator, Parkview Hospital, Rocky Mount, North Carolina.*
 GEORGE LAWVER, A.B., M.H.A., *Administrator, Alamance County Hospital, Burlington, North Carolina.*
 DANNIE MOFFIE, Ph.D., *Head, Department of Industrial Psychology, State College, Raleigh, North Carolina.*
 JACQUE NORMAN, A.B., A.I.A., *Hospital Consultant, Greenville, South Carolina.*
 R. Z. THOMAS, A.B., *Administrator, Charlotte Memorial Hospital, Charlotte, North Carolina.*
 SAMPLE FORBUS, A.B., *Administrator, Watts Hospital, Durham, North Carolina.*
 WILLIAM M. RICH, A.B., *Administrator, Lincoln Hospital, Durham, North Carolina.*
 FRANK T. DE VYVER, Ph.D., *Professor of Economics, Duke University.*
 LLOYD B. SAVILLE, Ph.D., *Associate Professor of Economics, Duke University.*
 A. S. BROWER, A.B., *Comptroller, Duke University.*
 G. C. HENRICKSEN, C.P.A., *Assistant Comptroller, Duke University.*
 JOSEPH LIGHTY, *Administrator, Cone Memorial Hospital, Greensboro, North Carolina.*

Nursing

—, *Dean of the School of Nursing.*

ANN M. JACOBANSKY, R.N., M.A., *Director of Undergraduate Instruction.*
 LELIA R. CLARK, R.N., M.A., *Director of Nursing Service.*
 DORIS NIFONG, *Coordinating Instructor of Practical Nursing Division.*
 WINIFRED M. PARKER, R.N., B.S.N.Ed., *Assistant Director of Practical Nursing Division.*

School of Nursing. Two programs are offered in the undergraduate school of nursing, one leading to a diploma after three years of study and the other leading to a B.S. in Nursing after four years of study.

Further information concerning the School of Nursing may be obtained by writing to the Dean of the School of Nursing, Hanes House, Duke University, Durham, North Carolina.

Practical Nursing Division of the Vocational Education Department of the Durham City Schools, Duke Unit. After three months of classroom instruction at the Hillside High School, nine months are spent in classes and practical training at Duke Hospital. At the completion of this course, the student receives a certificate in practical nursing and is eligible for licensure as a practical nurse in North Carolina.

Nurse Anesthesia

CHARLES RONALD STEPHEN, M.D.C.M., D.A., *Professor of Anesthesiology and Chief of Division of Anesthesiology.*

MARY B. CAMPBELL, R.N., M.A.A.N.A., *Instructor in Nurse Anesthesia and Chief Nurse Anesthetist.*

EVELYN E. AULD, R.N., M.A.A.N.A., *Instructor in Nurse Anesthesia and Chief Nurse Anesthetist, Watts Hospital, Durham, N. C.*

MARY M. HIERS, R.N., M.A.A.N.A., *Educational Program Director.*

MARTHA BROWN, R.N., M.A.A.N.A., *Assistant Nurse Anesthetist.*

LOLA A. GLENN, R.N., M.A.A.N.A., *Assistant Nurse Anesthetist.*

EMILY S. KIRKLAND, R.N., M.A.A.N.A., *Assistant Nurse Anesthetist.*

ELIZABETH PARTRIDGE, R.N., *Assistant Nurse Anesthetist.*

FRANCES ROWLAND PERRY, R.N., M.A.A.N.A., *Assistant Nurse Anesthetist.*

BEVERLY ANN WHITE, R.N., M.A.A.N.A., *Assistant Nurse Anesthetist.*

Courses available to graduate nurses include an eighteen months' course for nurses who have had no experience in anesthesia, and a nine to twelve months' course for nurses who have had five years of practical experience but no formal training in the specialty. Instruction embraces the theoretical aspects and clinical application of all drugs and techniques in accepted usage. The program is divided into quarters. The major part of the basic theoretical instruction is given during the first three quarters. After a pre-clinical period of eight weeks, clinical practice runs parallel with the theoretical program. One class is accepted annually and enrolled on January 15. All appointments for the current year are made by September 1 of the preceding year. Graduates of these courses are eligible to take the examination given by the American Association of Nurse Anesthetists. Tuition is \$150.00 and \$100.00 respectively. Additional information concerning these programs for nurses may be obtained from Mary B. Campbell, R.N., Box 3094, Duke Hospital, Durham, North Carolina.

X-Ray Technology

ROBERT J. REEVES, M.D., *Professor of Radiology and Chairman of the Department.*

GEORGE J. BAYLIN, M.D., *Professor of Radiology and Associate in Anatomy.*

JOHN B. CAHOON, JR., R.T., A.S.X.T., *Technical Associate in Radiology.*
 AUDREY RINALDI, *Technical Assistant in Radiology.*

The course in x-ray technology includes training in radiographic and x-ray therapy technic. The curriculum has been planned with the thought of giving the student x-ray technician a basic knowledge of the principles involved along with an introduction to the technical aspects of radiography. Applicants for training in x-ray technology should satisfy one of the following requirements: two years of college, graduate nurse, or special student without either of these requirements who might be appointed by the committee on admissions. The course is of twelve months' duration and the following subjects are presented: Anatomy and Physiology, General and Radiographic physics, Processing and Chemistry of x-ray film and Solutions, Fundamentals of Exposure Factors, Medical Terminology, Standard and Special Positions in Radiography, X-Ray Protection and Apparatus Maintenance. The tuition fee is \$25.00 payable on admission. Other student activity fees are optional. The University educational, recreational and athletic facilities are available to the students. Students are admitted on October 1 each year. Applications should be filed by July 1st. No maintenance is provided, therefore students live in town at their own expense. A certificate is awarded to those who successfully complete the course. The course is approved by the Council on Medical Education, American Medical Association, American College of Radiology, American Registry of X-Ray Technicians and The American Society of X-Ray Technicians. For further information, write: Professor of Radiology, Duke Hospital, Durham, N. C.

Medical Technology

HAYWOOD M. TAYLOR, Ph.D., *Professor of Toxicology and Associate Professor of Biochemistry (Director).*

GEORGE MARGOLIS, M.D., *Associate Professor of Pathology (Associate Director of Laboratory Technique).*

DAVID T. SMITH, M.D., *James B. Duke Professor of Bacteriology and Associate Professor of Medicine.*

OSCAR C. E. HANSEN-PRÜSS, M.D., *Professor of Medicine in Charge of Clinical Microscopy.*

DUNCAN C. HETHERINGTON, Ph.D., M.D., *Professor of Anatomy.*

NORMAN F. CONANT, Ph.D., *Professor of Mycology and Associate Professor of Bacteriology.*

R. WAYNE RUNDLES, M.D., *Associate Professor of Medicine.*

HILDA POPE, Ph.D., *Assistant Professor of Bacteriology.*

MARY A. POSTON, A.M., *Associate in Bacteriology.*

HOYLE W. CRAIG, *Technical Associate in Bacteriology.*

PRESTON W. SMITH, *Technical Associate in Hematology.*

LEO B. DANIELS, *Technical Associate in Biochemistry.*

The course in laboratory technique, which includes training in blood chemistry, clinical microscopy, bacteriology, serology, basal metabolism, etc., is approved by the Board of Schools of Medical Technology of the American Society of Clinical Pathologists. The course lasts twenty-one months, the next class beginning September, 1955. The registration fee is \$300 which includes tuition, student health and diploma fee for the entire course. There are no additional fees except for breakage. Other student activity fees are optional. The students live in town at their own expense. A minimum of two years of approved college work is required. The degree of B.S. in Medical Technology is awarded upon successful completion of the course. Information as to the specific requirements may be obtained from Dr. Haywood M. Taylor, Duke Hospital, Durham, North Carolina.

Physical Therapy

HELEN LOUISE KAISER, R.P.T., *Assistant Professor of Physical Therapy in Charge of Division.*

PAUL PROUD, R.P.T., *Instructor in Physical Therapy.*

GRACE CUNNINGHAM, R.P.T., *Assistant in Physical Therapy.*

ELEANOR FLANAGAN, R.P.T., *Assistant in Physical Therapy.*

JACQUELINE P. HENEAGE, *Assistant in Physical Therapy.*

JOHANNA HUTCHINSON, *Assistant in Physical Therapy.*

CONSTANCE W. JENKS, R.P.T., *Assistant in Physical Therapy.*

MARTHA FREEMAN, R.P.T., *Assistant in Physical Therapy.*

BEATRICE A. CAMPBELL, R.P.T., *Assistant in Physical Therapy.*

EDNA BLUMENTHAL, R.P.T., *Lecturer in Physical Therapy.*

LUCY STRAW, R.P.T., *Lecturer in Physical Therapy.*

A fifteen months' course in physical therapy is offered for men and women graduates of accredited colleges, and for selected applicants who have completed ninety college semester hours, including credit in the biological sciences, physics, chemistry and psychology. The curriculum provides instruction in anatomy, physiology, kinesiology, pathology, psychology, electrotherapy, neuropsychiatry, therapeutic exercise and the principles of rehabilitation. Instruction in the clinical subjects is given by members of the faculty of the School of Medicine. Clinical training will be given at Duke Hospital and affiliated institutions and includes supervision of orthopaedic problems in the Durham Public Schools. The course starts in October. The tuition fee is \$350 plus \$35 for medical fee, and does not include maintenance. A certificate is awarded upon successful completion of the course. Twenty hours of credit may be earned toward the baccalaureate degree.

In addition to the above, a six months' course in the Psychosomatic Aspects of Physical Therapy is given to registered graduate physical

therapists. The course includes a study of personality structure, adjustment, tensions, anxiety and their relation to patient behavior and management. The tuition fee is \$150.00. A certificate is awarded. Courses are given to the students of the Schools of Medicine and Nursing. Further information and application blanks may be obtained from the Division of Physical Therapy, Duke Hospital, Durham, N. C.

Occupational Therapy

CORNELIA ANN WATSON, O.T.R., *Instructor in Occupational Therapy and Director of Department.*

JEAN GODFREY, O.T.R., *Assistant in Occupational Therapy.*

Occupational Therapy in the form of creative, manual, educational and recreational activities is offered to patients upon referral by their physicians. These activities are adapted to the specific remedial need of the individual patient. The division serves as a clinical training center for students from Occupational Therapy Schools.

Dietetics

ELSIE W. MARTIN, M.S., *Director and Professor of Dietetics.*

ERMA LEE ADAMS, C.P.A., *Accountant and Assistant Director.*

BARBARA C. CRANE, B.S., *Administrative Dietitian, Charge of Food Production and Assistant Director.*

GLORIA K. WARREN, B.S., *Therapeutic Dietitian and Instructor in Diet Therapy, Assistant Director.*

SARA JANE McDONALD, B.S., *Clinic and Teaching Dietitian.*

MARY PENELOPE BISHOP, B.S., *Therapeutic Dietitian Charge Modified Diets.*

AUDREY M. EVANS, B.S., *Therapeutic Dietitian and Instructor of Nutrition for Student Nurses.*

M. EUGENIA MALONE, B.S., *Administrative and Teaching Dietitian.*

PRISCILLA RAND, B.S., *Therapeutic and Teaching Dietitian.*

MARGARET PRESLEY, B.S., *Administrative Ward Dietitian and Instructor.*

In addition to the dietetic training of the students of the Schools of Medicine and Nursing, fourteen dietetic interns may be admitted to the School of Dietetics and given the certificate of graduate dietitian after the successful completion of one year's internship. The entrance requirements are a Bachelor's degree from an approved university or college, with majors in nutrition and institutional management, and the courses in chemistry, biology, social science, and education recommended by the American Dietetic Association. The course for dietetic interns provides instruction in all phases of hospital and institutional dietetics, including experience from the buying and storage of food to its service to the patients according to the physician's orders. Interns may apply some of their time in securing graduate credit.

The course starts the first of September. All students pay a regis-

tration fee of \$10 at the time of appointments. Additional fees are charged if the intern takes additional work in the University for an advanced credit. Maintenance is provided. More detailed information and application blanks may be obtained from the Professor of Dietetics, Duke University School of Dietetics, Durham, N. C.

Social Service

JANET WIEN, M.S., *Director and Assistant Professor of Social Service.*

SARA HARRIETTE AMEY, A.B., *Instructor in Social Service.*

MERLE M. FOCKLER, M.S.S.W., *Instructor in Social Service.*

MARY HENNESSEE, M.S.W., *Instructor in Social Service.*

DOROTHY M. JOHNSON, M.S.W., *Instructor in Social Service.*

HELEN LEWIS, M.S., *Instructor in Social Service.*

ISABEL PELTON, M.S.S.W., *Instructor in Social Service.*

DOROTHY OVERTON POST, M.S.S.W., *Instructor in Social Service.*

ANNABEL STANFORD, M.S., *Instructor in Social Service.*

IRIS CLARK YEO, M.S.W., *Instructor in Social Service.*

Medical and psychiatric social casework service is offered to patients referred by personnel within the Hospital, and by interested individuals and health and welfare agencies outside of the Hospital. Consultation regarding problems presented are available to the members of the Staff and referring agencies.

The division also assists in teaching social and environmental aspects of illness and medical care through consultations and lectures to the students of the Schools of Medicine and Nursing. In addition, it serves as an agency for supervised field work for students of the Graduate School of Social Work of the University of North Carolina and Atlanta University School of Social Work. Further information concerning training for advanced students may be obtained from the Social Service Division, Duke Hospital, Durham, North Carolina.

Medical Record Library

J. HARNED BUFKIN, R.N., R.R.L., *Assistant Professor of Medical Record Library Science.*

BETTY S. WIGGINS, A.B., R.R.L., *Assistant Medical Record Librarian.*

A twelve months' course for the training of medical record librarians which has been given full approval of the American Association of Medical Record Librarians and the American Medical Association, includes three months of classes and nine months of internship with rotation through inter- and extra-departmental stations. Applicants are judged individually for eligibility, and education, training, and experience are all taken into consideration. The curriculum provides

instruction in the theory of medical record library science, and an introduction to anatomy, physiology, pathology, medical and operative terminology, and medical diction. Instruction is given by members of the faculty of the School of Medicine, with special lectures on hospital management and correlation of various hospital departments, as well as seminars on legal aspects and administrative uses of medical case records. Internship includes application of class work in actual practice and covers all phases of medical record library work. The course starts in October. The tuition fee is \$175.00 and does not include maintenance. A certificate is awarded upon successful completion of the course. Applications may be made to the Medical Record Librarian, Box 3307, Duke Hospital, Durham, N. C.

Medical Art and Illustration

ELON H. CLARK, *Professor of Medical Art and Illustration.*

ROBERT L. BLAKE, *Associate in Medical Art and Illustration.*

HENRY F. PICKETT, *Associate in Medical Art and Illustration.*

RAYMOND HOWARD, *Instructor in Medical Photography.*

NEALLY WEBSTER, *Instructor in Medical Photography.*

THOMAS WEBSTER, *Assistant Photographer.*

LIBBY HAYES, *Letter Artist.*

PAUL FAIRCHILD, *Medical Artist.*

The function of this Division is to produce, for staff members allied to medicine, visual aids by way of various art and photographic methods. These visual aids are used to enhance the medical records and to aid in research and education. Services offered by this Division are: 1. Medical Art: Illustrations, by means of various artistic techniques, depicting anything perceptible to the eye, the existing but unseen and even the theoretical, as well as mechanical drawings, diagram, charts, graphs, lettering, casts, models, exhibits, etc. 2. Medical Photography: Illustrations of anything to which available photographic equipment will respond. This Division produces still and motion pictures, microphotographs, pictures of the retinæ, photographic copies, film strips, lantern slides, enlargements and contact prints. Services offered directly for the patient's benefit are: Production of various types of anatomical prostheses and instruction in the use of opaque cosmetics. Facilities for individual training in specific techniques or methods employed by this Division are available. No academic credit is given. Prerequisites, tuition, time and type of training are determined by the Chairman of this Division. No regular courses of instruction in medical art and photography or their allied fields are offered.

Roster of Students

CLASS OF 1954

WITH INTERNSHIP APPOINTMENTS

Adamson, Jerry Eugene, New Martinsville, W. Va., Duke Hospital.
Arthur, Robert Miller, Hillsboro, N. C., Charity Hospital, New Orleans, La.
Aycock, William Glenn, Fremont, N. C., Duke Hospital.
Ayers, John Clifford, Jr., Nichols, S. C., Duke Hospital.
Barr, Frank Woodworth, Jr., Charlotte, N. C., Duke Hospital.
Barrett, John Albert, Jr., Mt. Holly, N. C., Duke Hospital (USAF Reserve Training Program).
Bouzard, Walter Carroll, Durham, N. C., Walter Reed Army General Hospital, Washington, D. C.
Brandy, Joseph Ralph, Jr., Ogdensburg, N. Y., Montreal General Hospital, Montreal, Quebec, Canada.
Brewer, John Mickle, Jr., Kershaw, S. C., Charity, Hospital, New Orleans, La.
Brock, Charles Lee, Asheville, N. C., U. S. Naval Hospital, Camp Pendleton, Calif.
Buckley, Charles Edward, III, Charleston, W. Va., Duke Hospital.
Carr, Henry James, Jr., Roseboro, N. C., Pennsylvania Hospital, Philadelphia, Pa.
Clement, James Edwin, Raleigh, N. C., Duke Hospital.
Cohen, Harvey Jay, Columbia, S. C., District of Columbia General Hospital, Washington, D. C.
Constantine, Thomas Moore, Racine, Wis., Duke Hospital.
Craddock, Annabelle Thomas, Burlington, N. C., North Carolina Memorial Hospital, Chapel Hill, N. C.
Craddock, John Goodwin, Jr., Charlotte, N. C., North Carolina Memorial Hospital, Chapel Hill, N. C.
Crevasse, Lamar Earle, Jr., Tampa, Fla., Duke Hospital.
Davis, Arnold Van Osdal, New Albany, Ind., Hospital of the University of Pennsylvania, Philadelphia, Pa.
DeLaughter, George Dewey, Jr., Texarkana, Ark., Duke Hospital.
DePass, Skottowe Wannamaker, Camden, S. C., Kings County Medical Center, Brooklyn, N. Y.
Elliott, James Francis, Charlotte, N. C., Walter Reed Army General Hospital, Washington, D. C.
Finch, Charlie Bryan, Oxford, N. C., Duval Medical Center, Jacksonville, Florida.
Floyd, Marian Anita, Winter Park, Fla., Orange Memorial Hospital, Orlando, Fla.
Forrester, Eugene Norwood, Dinsmore, Fla., U. S. Naval Hospital, St. Albans, N. Y.
Gould, Kenneth George, Tampa, Fla., Ohio State University Hospital, Columbus, Ohio.
Haiberg, Gordon Harold, Crosby, N. Dak., St. Luke's Hospital, Fargo, N. Dak.
Hair, Thomas Eugene, Jr., Columbia, S. C., Parkland Hospital, Dallas, Texas.
Harvey, Wallace Weston, Jr., Greensboro, N. C., Duke Hospital.
Hedge, Raymond Harvey, Jr., Tyler, Texas, Jefferson-Davis Hospital, Houston, Texas.
Helms, William Kendall, Jr., Columbia, S. C., Duke Hospital.
Hewitt, Wilmer Clyde, Jr., Tacoma, Washington, Duke Hospital.
Hill, Paul Edward, Murphy, N. C., Grady Memorial Hospital, Atlanta, Ga.
Holden, Alan Berle, Belle Harbor, N. Y., University of Chicago Clinics, Chicago, Ill.
Holland, Hal Curtis, Idaho Falls, Idaho, Stanford University Hospitals, San Francisco, Calif.
Horsley, Howard Theodore, Franklin, N. C., Medical College of Virginia Hospital, Richmond, Va.
Huber, Donald Simon, High Point, N. C., Charity Hospital, New Orleans, La.
Hudson, I. Stanton, Jr., Jacksonville, Fla., Charity Hospital, New Orleans, La.
Jackson, Benjamin Taylor, Jacksonville, Florida, Duke Hospital.
James, Charles Alston, Columbia, S. C., Johns Hopkins Hospital, Baltimore, Md.
Javitt, Norman Bert, Bronx, N. Y., Mt. Sinai Hospital, New York, N. Y.
Jones, James David, Dallas, Texas, Duke Hospital.
Jones, William Burrell, Ocala, Fla., Duke Hospital (USAF Reserve, Training Program).
Kelley, James Marvin, Jr., Dallas, Texas, Duke Hospital.
Kelly, Richard Alexander, Jr., Matthews, N. C., Detroit Receiving Hospital, Detroit, Mich.
Kenaston, Thomas Corwin, Jr., Cocoa, Fla., Valley Forge Army General Hospital, Valley Forge, Pa.
Losin, Sheldon, Baltimore, Md., Kings County Medical Center, Brooklyn, N. Y.
Ludlow, Enoch Andrus, Spanish Fork, Utah, Thomas D. Dee Memorial Hospital, Ogden, Utah.
Magee, George Franklin, Reno, Nev., Johns Hopkins Hospital, Baltimore, Md.
Mattox, Huitt Everett, Jr., Bluefield, W. Va., Barnes Hospital, St. Louis, Mo.
McGerity, Joseph Loehr, West Palm Beach, Fla., Letterman Army General Hospital, San Francisco, Calif.
McGowan, Jack Landis, Hamlet, N. C., Tripler General Army Hospital, Honolulu, T. H.
Mebane, Giles Yancey, Raleigh, N. C., Duke Hospital.

Melton, Robert Allen, Wilmington, N. C., New York Hospital, Cornell Division, New York, N. Y.
 Morgan, Thomas Edward, Jr., Jacksonville, Fla., Stanford University Hospital, San Francisco, Calif.
 Newman, Ernest Gustave, Jr., Pensacola, Fla., St. Elizabeth's Hospital, Washington, D. C.
 O'Neill, James Flemister, Savannah, Ga., Duke Hospital.
 Past, Si Alexander, Jr., Chattanooga, Tenn., Methodist Hospital, Brooklyn, N. Y. (USAF Reserve, Civilian Training Program)
 Patton, Robert Gray, Durham, N. C., Duke Hospital.
 Pierson, George Herman, Jr., Charleston, W. Va., Duke Hospital.
 Pinsker, Henry, Paterson, N. J., Kings County Medical Center, Brooklyn, N. Y.
 Pollard, Louise Elaine Friend, Accident, Md., Deferred.
 Potter, Clyde Randolph, Jr., Belhaven, N. C., University of Minnesota Hospitals, Minneapolis, Minn.
 Ramey, James William, Mt. Sterling, Ky., Denver General Hospital, Denver, Colo.
 Rippy, Girard Crawford, Jr., Greenville, S. C., Moses Cone Memorial Hospital, Greensboro, N. C.
 Rothstein, Leonard Milton, Baltimore, Md., Duke Hospital.
 Shapiro, William, Newark, N. J., Mt. Sinai Hospital, New York, N. Y.
 Shugerman, Earle Hilel, Birmingham, Ala., St. Louis City Hospital, Washington Univ., St. Louis, Mo.
 Sing, Robert Lloyd, Jr., Charlotte, N. C., University Hospital, University of Michigan, Ann Arbor, Mich.
 Skipworth, George Brook, Columbus Ga., Tripler Army General Hospital, Honolulu, T. H.
 Spach, Madison Stockton, Winston-Salem, N. C., Duke Hospital.
 Stallings, Tolbert Lacy, Jr., Louisburg, N. C., Hahnemann Hospital, Philadelphia, Pa.
 Talley, William Clinton, Greensboro, N. C., Duke Hospital (USAF Reserve, Civilian Training Program)
 Tannehill, Antone Walter, Jr., Hattiesburg, Miss., Medical College of Virginia, Richmond, Va.
 Tickle, Dewey Reid, Burlington, N. C., Duke Hospital.
 Verner, John Victor, Jr., Danville, Va., Duke Hospital.
 Vetter, John Stanley, Mt. Olive, N. C., Grady Memorial Hospital, Atlanta, Ga.
 Wanzer, Sidney Hovey, Charlotte, N. C., Peter Bent Brigham Hospital, Boston, Mass.
 Williams, Kenneth Trotter, Charlotte, N. C., Grace-New Haven Community Hospital, New Haven, Conn.
 Yudell, Robert Ben, New Bern, N. C., U. S. Naval Hospital, Chelsea, Mass.

CLASS OF 1955

Alexander, Gerald Laurence (University of Michigan), Brooklyn, N. Y.
 Ashbill, David St. Pierre, Jr. (The Citadel), Columbia, S. C.
 Bell, Norman Howard (Emory Junior College, Emory University), Gainesville, Ga.
 Bennett, Paul Clifford, Jr. (Wake Forest College), Kinston, N. C.
 Bercovitz, Mary Caroline (Duke University), New York, N. Y.
 Bethune, William Murphy, Jr. (United States Military Academy, Wake Forest College), Clinton, N. C.
 Bjerk, Edward Martin (Elon College, University of North Carolina), Burlington, N. C.
 Blum, Lawrence Michael (College of William and Mary), Brooklyn, N. Y.
 Bourgeois-Gavardin, Michel (University of Paris, University of Paris School of Medicine), Paris, France.
 Bourland, William Lee (Duke University), Winter Garden, Fla.
 Bramlett, Charnier Williams (The Citadel), Spartanburg, S. C.
 Breitbart, Sidney (College of Charleston, Duke University), Charleston, S. C.
 Britt, Benjamin Earl (North Carolina State College, Mitchell College, University of North Carolina), Raleigh, N. C.
 Bynum, Rufus Sisson (University of North Carolina), Potsdam, N. Y.
 Carver, David Harold (Harvard University), Chestnut Hill, Mass.
 Chamberlin, Frank Harry (Duke University), West Orange, N. J.
 Combs, Joseph John, Jr. (University of North Carolina), Raleigh, N. C.
 Cowan, David Emerson (Davidson College), Burlington, N. C.
 Crowder, Thomas Harold, Jr. (University of North Carolina), Henderson, N. C.
 Cupp, Horace B., Jr. (Emory University, University of Tennessee), Atlanta, Ga.
 David, Arthur Kalil, Jr. (University of Florida, Duke University), Jacksonville, Fla.
 Dayton, Robert Guy, Jr. (Duke University), Winston-Salem, N. C.
 Dukes, Herbert Trice (Duke University), Tampa, Fla.
 Farmer, John Lovelace, Jr. (Duke University), Wilson, N. C.
 Fox, Norman Albright, Jr. (Guilford College), Guilford College, N. C.
 Gore, John Pratt (University of Richmond, Clemson College, Wake Forest College, Asheville, N. C.)
 Gore, Tom Winfield (Duke University), Haleyville, Ala.
 Gore, John Ashley (University of California (Los Angeles), Stanford University, University of Southern California), San Diego, Cal.
 Goswick, Claude Benjamin, Jr. (Duke University), Durham, N. C.
 Graham, Frederick William (Duke University), Charleston, W. Va.
 Graham, John Douglas (University of North Dakota, University of North Dakota School of Medicine), Miami, Fla.
 Haim, Liam (Duke University), Yonkers, N. Y.
 Hilgartner, Margaret Wehr (Bryn Mawr College, Duke University), Baltimore, Md.
 Ira, Gordon Henry, Jr. (Duke University), Jacksonville, Fla.
 James, Joseph McCraw, Jr. (University of North Carolina), Wilmington, N. C.
 James, Robert Earl, Jr. (East Carolina Teachers College), Robersonville, N. C.
 Jelks, Allen Nathaniel (Emory University), Ft. Lauderdale, Fla.
 Johnson, Harry Wallace (Duke University), Weldon, N. C.
 Johnston, Cyrus Conrad, Jr. (Duke University), Mooresville, N. C.

Jones, Edward Lenoir (High Point College, University of North Carolina), Charlotte, N. C.
 Kinneman, Robert Eugene, Jr. (Duke University), Greenfield, Ind.
 Lang, William Steve, Jr. (Armstrong Junior College, Duke University), Savannah, Ga.
 Langley, John Thomas (University of North Carolina), Kinston, N. C.
 Langstaff, Quintus Aden (Johns Hopkins University, Peabody Teachers College), Nashville, Tenn.
 Leslie, Robert Andrew (Westminster College, University of Tulsa, St. Andrews University, School of Medicine), Bristol, Eng.
 Lipton, Harold Pons (Duke University), Beechurst, L. I., N. Y.
 Mandrick, Fred Harold (University of North Dakota, University of North Dakota, School of Medicine), Williston, N. Dak.
 McAuley, Eurid Reid, Jr. (University of North Carolina), Charlotte, N. C.
 McCall, Ben Waring (Duke University), Jacksonville, Fla.
 Merwarth, Charles Richard (Duke University), Cranford, N. J.
 Mitchell, David Crerar (Duke University), Grosse Pointe, Mich.
 Morgan, Beverly Carver (Lenox Hill Hospital School of Nursing, University of Wisconsin, George Washington University School of Medicine), San Francisco, Cal.
 Neal, Charles Bodine (Duke University), Millville, N. J.
 Ocker, John McClellan, Jr. (Catholic University of America, Duke University), Philadelphia, Pa.
 Pagter, Amos Townsend, Jr. (Duke University), Washington, D. C.
 Pierce, John Arthur (Duke University), Ocean Grove, N. J.
 Reeves, John Wesley, Jr. (University of West Virginia), Fairmont, W. Va.
 Saunders, Donald Eugene, Jr. (University of South Carolina), Columbia, S. C.
 Silbergeld, Sam (University of Chicago, University of Illinois, University of Illinois School of Medicine), Carlinville, Ill.
 Silver, Donald (University of North Carolina), Asheville, N. C.
 Simon, Harold (Duke University), Trenton, N. J.
 Sledge, John Burton, Jr. (Duke University), Rich Square, N. C.
 Slocumb, Marvin Benton (Mercer University, Duke University), Macon, Ga.
 Smith, Richard Bowden (Duke University), Durham, N. C.
 Snow, John Wesley (Duke University), Gainesville, Fla.
 Steagall, Robert Worth, Jr. (Duke University), Charlotte, N. C.
 Stokes, Thomas Angier, Jr. (University of North Carolina), Durham, N. C.
 Strauss, Saul (Duke University), Brooklyn, N. Y.
 Taylor, Everette Lester, Jr. (Washington and Jefferson College, Washington and Lee University), Mt. Airy, N. C.
 Thames, Thomas Byron (University of Florida), Miami, Fla.
 Vitols, Edité (M. Bekeres Woman's College, Latvia, University of Riga Medical School, University of Rostock, Germany), Riga, Latvia.
 Watson, David Earl (Duke University), Okmulgee, Okla.
 West, Bryan Clinton, Jr. (Wake Forest College), Kinston, N. C.
 Wiggs, Eugene Overbey (Johns Hopkins University), Washington, D. C.
 Wiita, Robert Matthew (Duke University), Monessen, Pa.
 Wilder, Buna Joe (Duke University), Gainesville, Fla.
 Williams, Dana Steeves (Bates College), Reading, Mass.
 Young, James Morningstar (Duke University), Massillon, Ohio.

CLASS OF 1956

Allison, Ronald Eugene (Duke University), Shaker Heights, Ohio.
 Barton, Dewey Lockwood (Bates College), Hasbrouck Heights, N. J.
 Benson, Gordon Donald (Drake University, University of Minnesota), Red Lake Falls, Minn.
 Brown, Edward B. (Duke University), Scranton, Pa.
 Bryan, William Blair (Wake Forest College), Battleboro, N. C.
 Carmichael, Daniel Erskine (Vanderbilt University), Birmingham, Ala.
 Carswell, Abel Paul, Jr. (Duke University, University of North Carolina), Durham, N. C.
 Coffin, Lewis Augustus, III (University of Virginia), New York, N. Y.
 Cranford, Harold Davis (University of North Carolina), Asheboro, N. C.
 Crenshaw, Marvin Carlyle, Jr. (Davidson College), Columbia, S. C.
 Culton, Julian Clark (Guilford College), Charlotte, N. C.
 Culton, Yancey Goelet, Jr. (Guilford College), Charlotte, N. C.
 Davis, William Alexander, Jr. (Davidson College, North Georgia College), Charlotte, N. C.
 Deiss, Elmer Andrew, Jr. (Princeton University), Lexington, Ky.
 Dickinson, William Andrew, Jr. (Virginia Military Institute), Cape Charles, Va.
 Dorsey, Charles Laing (Virginia Military Institute), Roanoke, Va.
 Dozier, Laurie Lester, Jr. (University of Miami, University of Florida, Duke University, Florida State University), Tallahassee, Fla.
 Easterling, James Frank (University of North Carolina), Rocky Mount, N. C.
 Failing, Robert Mayo (Western Carolina Teachers College, University of North Carolina), San Marino, Cal.
 Foster, Richard Sparre (Duke University), Washington, D. C.
 Fredricks, Richard Neil (Duke University), Miami Beach, Fla.
 Gehweiler, John Andrew, Jr. (Duke University), Jamaica, N. Y.
 Gibson, James Franklin (Duke University), Wilmington, N. C.
 Grunt, Jerome Alvin (Rutgers University, University of Kansas), Newark, N. J.
 Griffin, Harvey Lee, Jr. (University of North Carolina), Asheboro, N. C.
 Hardison, Joseph Hammond, Jr. (Duke University), Raleigh, N. C.
 Hassler, William Lada (Duke University), Shaker Heights, Ohio.
 Hollett, Alan Morton (Duke University), Wilmington, Del.
 Horne, Andrew Ferree (Davidson College, University of West Virginia, University of West Virginia School of Medicine), Welch, W. Va.
 Howard, Robert Mackay (Duke University), Savannah, Ga.
 Hutchin, Peter (Duke University), Cleveland, Ohio.

Jackson, James Robert (Wake Forest College), Fayetteville, N. C.
 Jackson, Joseph Hoyt, Jr. (Centenary College, Duke University), Shreveport, La.
 Johnson, Douglas Marion (Emory University), Macon, Ga.
 Josefiak, Eugene Joseph (St. Joseph's College, University of Buffalo, Duke University), Durham, N. C.
 Kent, Horace Smith (Duke University), Mesa, Arizona.
 Koger, Edward Richard (University of Florida), Hialeah, Fla.
 Komrad, Eugene Leslie (Long Island University, Boston University), Yonkers, N. Y.
 Lang, Frank Alexander (Duke University), Ft. Lauderdale, Fla.
 Lee, Pope Matthews (Duke University), Asheville, N. C.
 Mangum, Vernon Pressley (University of North Carolina), Hamlet, N. C.
 McElough, W. Edward (St. Peter's College, Georgetown University School of Medicine), Washington, D. C.
 Metropol, Harry Jack (Duke University), Manning, S. C.
 Miller, David Edmond (Duke University), Laurinburg, N. C.
 Mostellar, Henry Curtis (Duke University), Mobile, Ala.
 Neal, John William (Wingate Jr. College, Wake Forest College, University of North Carolina), Monroe, N. C.
 Newell, Bruce, Jr. (Duke University), Roxboro, N. C.
 Pauson, George W. (Yale University, Yale University School of Medicine), Raleigh, N. C.
 Pearson, Hugh Oliver, Jr. (Wake Forest College), Pinetops, N. C.
 Pollock, James Harold (Duke University), Westerville, Ohio.
 Preston, Edna Anne (Woman's College of the University of North Carolina), Ypsilanti, Mich.
 Ratchford, George Rufus, Jr. (Duke University), Gastonia, N. C.
 Renuart, Adhemar William (Duke University), Miami, Fla.
 Rollins, Robert LeRoy, Jr. (University of North Carolina), Farmville, N. C.
 Roseberry, Philip Leon (Duke University), York, Pa.
 Ross, James Vincent, Jr. (Duke University), Easton, Pa.
 Sanford, Virginia Oates (Woman's College of the University of North Carolina, Wake Forest College), Greensboro, N. C.
 Schachter, Jerome Miles (Duke University), New York, N. Y.
 Schweig, Noel Asher (New York University, Wesleyan University, University of Utrecht Medical School, Holland), New York, N. Y.
 Shands, Joseph Walter, Jr. (Princeton University), Jacksonville, Fla.
 Shealy, Clyde Norman (Duke University), Camden, S. C.
 Shoemaker, Carroll Clifton (Wake Forest College), Raleigh, N. C.
 Sloan, James Marshall, III (Davidson College), Gastonia, N. C.
 Spanel, David Louis (Princeton University, University of Pennsylvania), Princeton, N. J.
 Steele, Richard Austin (Wake Forest College, Duke University), Asheville, N. C.
 Steiner, Sheldon Haskell (New York University), New York, N. Y.
 Sterling, Lehman Newell (Duke University), Broomall, Pa.
 Stuart, Edward George (State Teachers College, Temple University, University of Pennsylvania), West Chester, Pa.
 Tanaka, Shin (Duke University), Durham, N. C.
 Townsend, James Joye (Duke University), Jacksonville, Fla.
 Turner, John Calhoun (Duke University), Fair Bluff, N. C.
 Vance, Thomas Doyle (Duke University), Spruce Pine, N. C.
 Walton, George Britain, Jr. (University of North Carolina), Chadbourne, N. C.
 Whanger, Alan Duane (Duke University), Cleveland, Ohio.
 Whitaker, Harry Applewhite (Davidson College), Rocky Mount, N. C.
 Wilbanks, George Dewey (Duke University), Tampa, Fla.
 Wilkinson, Charles Albert (Wake Forest College), Wake Forest, N. C.
 Wilson, Colon Hayes, Jr. (Duke University), Havelock, N. C.
 Windom, Robert Emerson (Duke University), St. Petersburg, Fla.
 Young, Hadley Rasch (The Citadel), Duluth, Minn.

CLASS OF 1957

Anderson, Herbert Charles (Massachusetts Institute of Technology, Hofstra College, Dartmouth College, University of Miami), Coral Gables, Fla.
 Andrews, Billy Franklin (Wake Forest College), Graham, N. C.
 Bacon, George Edgar (Wesleyan University), Scarsdale, N. Y.
 Barnhill, Lamuel Edgar, Jr. (Duke University), Bethel, N. C.
 Barrick, Harry Welling, Jr. (Princeton University, Trinity College, San Antonio, Duke University), Watsonville, Cal.
 Bedell, Richard Ferrandou (Duke University), Scarsdale, N. Y.
 Blackard, William Griffith (Duke University), Asheville, N. C.
 Bowles, Lawrence Thompson (Duke University), Garden City, N. Y.
 Bromberg, Albert Marvin (College of William and Mary), Jersey City, N. J.
 Bunn, Joseph Plummer (Duke University), Tarboro, N. C.
 Cannon, Stanley Joel (Duke University), Coral Gables, Fla.
 Creighton, James Burns, Jr. (University of Florida), Tampa, Fla.
 Dulin, Thomas Leroy (Duke University), Charlotte, N. C.
 Ehtesham-Zadeh, Timor (Davis and Elkins College), Irak, Iran.
 Elder, Thomas David (Duke University), Scotia, N. Y.
 Ellington, Robert Norwood (University of North Carolina), Burlington, N. C.
 Fennell, Thomas Dudley Boggess (Harvard University, University of Miami), Homestead, Fla.
 Fisher, Elbert Luther, Jr. (Duke University), Durham, N. C.
 Freedy, Lucy Rawlings (Wake Forest College, Wingate Junior College, University of Southern California), Conway, N. C.
 Fulton, James Walker (Duke University), Leesburg, Va.
 Gibson, Thomas Guthrie, Jr. (Wake Forest College), Gibson, N. C.
 Givens, Dingess Monroe (Duke University), Pearisburg, Va.

Hale, Lois Sue (University of Georgia), Decatur, Ga.
Hall, James Samuel, Jr. (Duke University), Fayetteville, N. C.
Harley, Eugene Lincoln (Bates College), Liberia, Africa.
Hill, David Bennett (Wake Forest College, University of North Carolina, School of Public Health), Rutherfordton, N. C.
Holly, Patricia Ann (Missouri State College), Ilmo, Mo.
Howell, Ralph Rodney (Davidson College), Concord, N. C.
Howse, Ralph Melvin (Duke University), Fairfield, Ala.
Hurst, Lawrence Ronald (Duke University), Mataoka, W. Va.
James, Walter Scott, Jr. (Duke University), Waynesboro, Pa.
Johnson, Paul Armstrong (Duke University), White Plains, N. Y.
Karpman, Stephen Benjamin (Duke University), Washington, D. C.
Keller, Donald Holland (Florida Southern College, Duke University), Plant City, Fla.
Kirkman, Shirley Elizabeth (Duke University), High Point, N. C.
Kitlowski, Edward John (Duke University), Baltimore, Md.
Lackey, Dixon Alexander (Duke University), Asheville, N. C.
LeBauer, Sidney Irwin (Duke University), Greensboro, N. C.
Lewis, William Ralph, Jr. (University of North Carolina, University of South Carolina), Columbia, S. C.
McInnis, Angus Guy, Jr. (Davidson College), Sanford, Fla.
Moseley, Robert Galloway (Duke University), Bluefield, W. Va.
Myrick, Sam E., Jr. (Davidson College), Jacksonville, Fla.
O'Mansky, Boris Louis (Duke University), Leeksville, N. C.
O'Mansky, Samuel Isaac (Duke University), Leeksville, N. C.
O'Neill, James Frank (Vanderbilt University), Miami, Fla.
Painter, William Edward (Duke University), Mt. Holly, N. C.
Pantelakos, Constantine George (Duke University), Rocky Mount, N. C.
Patrick, Roman Lee, Jr. (Duke University), Englehard, N. C.
Pepper, George (Duke University, Columbia University), New York, N. Y.
Perkins, Henry Thomas, Jr. (Duke University), Durham, N. C.
Pillsbury, Richard Theodric, Jr. (University of North Carolina), Salisbury, Md.
Poston, Robert Lewis (Davidson College), Rocky Mount, N. C.
Powell, Albert Henry, Jr. (Duke University), Durham, N. C.
Proctor, William Ivan, Jr. (University of North Carolina), Raleigh, N. C.
Redmond, James Seymour, Jr. (Duke University), Asheville, N. C.
Reese, Owen, Jr. (Davidson College), High Point, N. C.
Ridgeway, Nathan Alvah, Jr. (Furman University), Greenville, S. C.
Rogers, Richard Lionel (Clemson College), Hartsville, S. C.
Roughton, Ralph Emerson, Jr. (Duke University), Sandersville, Ga.
Sanders, Clyde Vernon, Jr. (Centenary College), Monroe, La.
Sappenfield, Luther Cook, Jr. (Davidson College), Charlotte, N. C.
Satterfield, George Howard, Jr. (North Carolina State College), Raleigh, N. C.
Schulz, Harold Paul, Jr. (Menlo College, Tufts College, University of California), San Francisco, Cal.
Schwartz, Melvin Jay (University of North Carolina), Wilmington, N. C.
Seagle, Lee Marcus, Jr. (Davidson College), Black Mountain, N. C.
Shingleton, Hugh Maurice (Duke University), Wilson, N. C.
Smith, Robert Laber (Duke University), Shaker Heights, Ohio.
Smith, Whitman Erskine, Jr. (Duke University), Albemarle, N. C.
Solomon, Alan (Bucknell University), New York, N. Y.
Spoto, Angelo Peter, Jr. (University of Florida), Tampa, Fla.
Sweeney, Charles Leslie, Jr. (Cornell University), Wilmington, Del.
Thorn, Drury Russell (University of Missouri), Kansas City, Mo.
Weiss, Edward Bernard (University of Florida), St. Petersburg, Fla.
Yancey, Henry Alexander, Jr. (Duke University), Charlotte, N. C.
Zener, Karl Adams (Harvard University), Durham, N. C.
Zerby, Arthur Wm. Elwood, Jr. (Albright College, Duke University), Reading, Pa.

CLASS OF 1953

Allen, Irving Ellis, Jr. (Duke University), Durham, N. C.
Altman, Robert Sherwood (University of Florida), Miami, Fla.
Anderson, Edward Everett (Duke University), Durham, N. C.
Barnhardt, Luther Ernest, Jr. (Duke University), Concord, N. C.
Bell, John Henry (Duke University), High Point, N. C.
Berry, Roger (New York University), New York, N. Y.
Bingman, Kenneth Ronald (Duke University), Bridgeport, W. Va.
Borders, Donald D. (University of Colorado), Stratton, Colorado.
Brandt, Robert John (Harvard University), Whitinsville, Mass.
Bryant, Wm. Franklin, Jr. (Duke University), Charlotte, N. C.
Byers, Frank Matthew, Jr. (Duke University), St. Petersburg, Fla.
Cassady, George Edward, II (La Sierra College, University of Southern California), Los Angeles, Cal.
Chambers, Robert Tillman (Duke University), Rowland, N. C.
Christie, John Norton, Jr. (Duke University), Jacksonville, Fla.
Dixon, John Elliott (Duke University), Ayden, N. C.
Dunn, John Thornton (Princeton University), Arlington, Va.
Evans, Jack Craver (Duke University), Lexington, N. C.
Evans, John Steed (Virginia Military Institute), Murfreesboro, N. C.
Furth, John Jacob (Cornell University, Yale University School of Law, University of Tennessee), Lexington, N. C.
Garcia, Gould Coates (Florida State University), Daytona Beach, Fla.
Garcia-Trias, David Enrique (Johns Hopkins University), Hato Rey, Puerto Rico.
Goldberg, Donald (Duke University), Bronx, N. Y.

- Graham, Thomas Caston (Duke University), Newnan, Ga.
 Griffin, Ashton Thomas, III (Duke University), Goldsboro, N. C.
 Grodsky, Leonard Herbert (University of North Carolina), Durham, N. C.
 Grunert, Donald Herman (The Citadel), Swannanoa, N. C.
 Guin, Thomas Duvall (Wake Forest College), Erwin, N. C.
 Handy, John Rutherford (Virginia Military Institute), Richmond, Va.
 Harris, Barry Conway (Duke University), Cresson, Pa.
 Hart, Elizabeth Hicks (Duke University), Durham, N. C.
 Hartsell, Charles Jacob, Jr. (Pfeffer Junior College, University of North Carolina),
 Oakboro, N. C.
 Heine, M. Wayne (University of Florida), Ocala, Fla.
 Hernandez, Rafael Ricardo (Duke University), Santurce, Puerto Rico.
 Howell, Talmadge Rudolph (Wake Forest College), Pikeville, N. C.
 Howerton, Philip Thomas (Davidson College), Charlotte, N. C.
 Hurlburt, James Cole (Duke University), Salem, Ohio.
 Ingalls, Jerry Milton (Macalester College), Rockingham, N. C.
 Johnson, Albin Willard (Duke University), Arlington, Va.
 Johnson, Herbert Fraser (Duke University), Tampa, Fla.
 Johnson, James Alfred (The Citadel), High Point, N. C.
 Johnston, William Webb (Davidson College), Mt. Holly, N. C.
 Jones, Billy Ernest (The Citadel), Port Orange, Fla.
 Jones, David Randolph (Davidson College), Durham, N. C.
 Kirkland, Thomas Alexander, Jr. (The Citadel), Charleston, S. C.
 Laughlin, Edward Humes (University of Virginia), Huntsville, Ala.
 Lee, James Mobley (Duke University), Birmingham, Ala.
 Lee, John Everett (Princeton University), Charlotte, N. C.
 Mahaley, Moses Stephen, Jr. (Charlotte College, Wake Forest College), Charlotte, N. C.
 Mallory, James Davis, Jr. (Princeton University), Anniston, Ala.
 Markee, Shirley June (Duke University), Durham, N. C.
 Mason, Dean Towle (Duke University), Bethesda, Md.
 McCracken, Clayton Houston, Jr. (Duke University), Asheville, N. C.
 Milam, John Halloway (Swarthmore College, University of North Carolina), New York, N. Y.
 Mitchell, Calvin Harrison (University of Tampa, University of Florida), Tampa, Fla.
 Moore, Irvin Bernard (Johns Hopkins University), Miami, Fla.
 Morphis, James Oscar, Jr. (Guilford College, University of North Carolina), Greensboro, N. C.
 Olsen, Roberta Louise (Bryn Mawr College), Durham, N. C.
 Pate, Barry Reeves (University of North Carolina), Cauton, N. C.
 Phillips, Ran Lorenzo, II (Virginia Military Institute), Sterlington, La.
 Pillow, Virginia Queen (Duke University), Eggertsville, N. Y.
 Porter, George H., III (Duke University), Atlanta, Ga.
 Rackley, Charles Edward (Duke University), Independence, Va.
 Rollins, Hal Judd, Jr. (University of North Carolina), Rockingham, N. C.
 Satterwhite, William Madison, Jr. (Wake Forest College), Wake Forest, N. C.
 Scheil, Charles Philip (Duke University), Jersey City, N. J.
 Shofer, Robert Jay (University of Pennsylvania), Baltimore, Md.
 Smiley, Douglas Frederick (Duke University), Los Angeles, Cal.
 Strader, Hunter Gordon, Jr. (Davidson College), Burlington, N. C.
 Thorne, Lawrence George (Duke University), Beckley, W. Va.
 Thorne, Norman Alan (North Carolina State College, Duke University), Ahoskie, N. C.
 Tucker, Daniel Noe, Jr. (Duke University), Wilmington, N. C.
 Tucker, Donald Hugh (Duke University), Greenville, N. C.
 Warner, Charles Ernest (University of Florida), Daytona Beach, Fla.
 Wergeland, Floyd Lawrence, Jr. (Montgomery Junior College, University of Maryland),
 Chevy Chase, Md.
 West, Edward Talmadge, Jr. (Davidson College, East Tennessee State College), Johnson City,
 Tenn.
 White, Alwyn Waverly, Jr. (Duke University), Pensacola, Fla.
 Wilson, Norman Jay (Duke University), Philadelphia, Pa.

SUMMARY

	MEDICAL STUDENTS		
	<i>Men</i>	<i>Women</i>	<i>Total</i>
First Year	73	4	77
Second Year	72	4	76
Third Year	78	2	80
Fourth Year	74	4	78
	297	14	311
	PARAMEDICAL STUDENTS		
School of Nursing		229	229
School of Dietetics		12	12
Medical Technicians		6	6
Physical Therapists	4	18	22
Post-Graduate Medicine	197	17	214
Hospital Administration	9		9
Anesthesiology	3	1	4
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Annual Bulletins

FOR GENERAL BULLETIN of Duke University, apply to *The Registrar*, Duke University, Durham, N. C.

FOR BULLETIN OF UNDERGRADUATE INSTRUCTION, apply to *The Registrar*, Duke University, Durham, N. C.

FOR BULLETIN OF THE COLLEGE OF ENGINEERING, apply to *The Registrar*, Duke University, Durham, N. C.

FOR BULLETIN OF THE GRADUATE SCHOOL OF ARTS AND SCIENCES, apply to *The Dean of the Graduate School*, Duke University, Durham, N. C.

FOR BULLETIN OF THE SCHOOL OF FORESTRY, apply to *The Dean of the School of Forestry*, Duke University, Durham, N. C.

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FOR BULLETIN OF THE SUMMER SESSION, apply to *The Director of the Summer Session*, Duke University, Durham, N. C.

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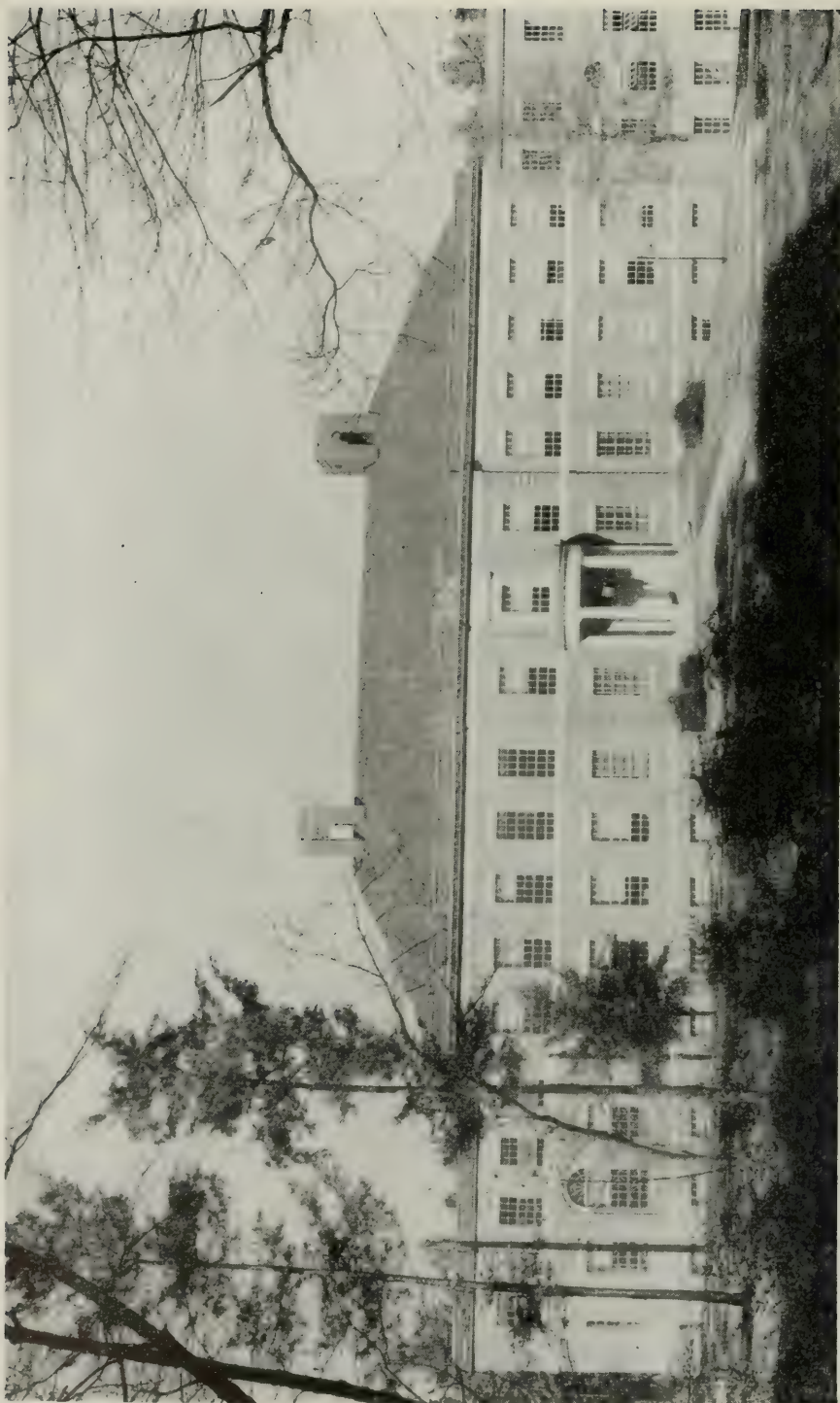
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OF
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COLLEGE OF ENGINEERING

1954-1955
ANNOUNCEMENTS FOR 1955-1956

DURHAM, NORTH CAROLINA
1955



ENGINEERING BUILDING

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Calendar of the Colleges



1955

- September 15. Thursday, 7:30 P.M. Assembly for all entering freshmen; Freshman Orientation begins.
- September 15. Thursday, 7:30 P.M. Assembly for transfer students entering Trinity College and the College of Engineering.
- September 19. Monday. Registration and matriculation of former students of Trinity College and the College of Engineering who have not pre-registered.
- September 20. Tuesday. Registration and matriculation of new students with advanced standing, Woman's College.
- September 21. Wednesday. Final registration of pre-registered students.
- September 22. Thursday. Fall semester classes begin.
- October 25. Tuesday. Examination in English Usage.
- November 7. Monday. Last day for reporting mid-semester grades.
- November 23. Wednesday, 5:00 P.M. Thanksgiving recess begins.
- November 28. Monday, 8:00 A.M. Classes are resumed.
- December 11. Sunday. Founders' Day.
- December 17. Saturday, 12:30 P.M. Christmas recess begins.

1956

- January 3. Tuesday, 8:00 A.M. Classes are resumed.
- January 14. Saturday, 12:30 P.M. Fall semester classes end.
- January 17. Tuesday. Final examinations begin.
- January 27. Friday. Final examinations end.
- January 30. Monday. Registration and matriculation of new students.
- January 31. Tuesday. Last day for matriculation for the spring semester.
- February 1. Wednesday. Spring semester classes begin.
- March 14. Wednesday. Last day for reporting mid-semester grades.
- March 24. Saturday, 12:30 P.M. Spring recess begins.
- April 2. Monday, 8:00 A.M. Classes are resumed.
- May 18. Friday, 5:00 P.M. Spring semester classes end.
- May 21. Monday. Final examinations begin.
- May 31. Thursday. Final examinations end.
- June 2. Saturday. Commencement begins.
- June 3. Sunday. Commencement Sermon.
- June 4. Monday. Graduating Exercises.

The College of Engineering



THE College of Engineering offers the student full four-year courses in Civil, Electrical, and Mechanical Engineering. The curricula of the three departments lead to the degrees of Bachelor of Science in Civil, Electrical, and Mechanical Engineering respectively. All three curricula are fully accredited by the Engineers' Council for Professional Development, which is the recognized authority of the engineering profession on educational standards; by the Regents of the State of New York; and by other national and regional accrediting groups. Each curriculum requires 148 semester hours of work, four of which are in physical education. In addition to the technical subjects necessary to a student in his chosen career, the programs include courses in related work, studies in certain non-engineering fields considered beneficial to him as a citizen and professional man, and the privilege of electing for himself courses in which he is personally interested.

History

Instruction in engineering subjects began at Duke University in 1887. Separate departments in civil and electrical engineering were established and B.S. degrees in these curricula were authorized in 1927. Instruction in mechanical engineering began in 1927 and a B.S. degree in this curriculum was first offered in 1931. This arrangement led in 1937 to the establishment of the Division of Engineering, which included the separate Departments of Civil, Electrical, and Mechanical Engineering. In 1939 the Division composed of these three departments was incorporated into the University structure as the College of Engineering, one of the three coordinate undergraduate colleges of Duke University.

Relationship to the University

The college exists as part of a university community in which the student has full opportunity to take part. It has a unique role in this community as the center of individual education for certain undergraduates, but as a member of the University the college shares in the extensive facilities for laboratory and field work, superior physical equipment, great libraries, and able faculties which only a major university can provide. It shares the same campus with the Graduate School of Arts and Sciences, the Law School, the Medical and Nursing

Schools, the Divinity School, the School of Forestry, and the Duke Hospital. A wide range of activities—religious, intellectual, cultural, social, and athletic—is open to the entire University community. At the same time there are other activities and organizations designed specifically for members of the College of Engineering. The student may thus enjoy both the activities and the atmosphere of a small college and the broader facilities and challenges provided by the existence of a university community.

Program

The College of Engineering provides instruction that is designed to give the student technical knowledge, judgment and skill. At the same time, it recognizes that a study of the humanities is essential to preparing the engineer for his professional and civic responsibilities and to helping him develop the philosophical, personal and social qualities which lead to a happy life. Engineering students, therefore, participate in the academic and the extracurricular life of the liberal arts college as well as in the activities of the engineering college.

Whether in the classroom or on the campus the emphasis is on the individual. To this end, classes are kept small in size and close contact between professor and student is encouraged. Instructors, counselors, advisers, and administrative officers are interested in the student as a person. In turn the student is expected to accept the responsibility of contributing to his own development, to his college, and to his university. The relationship of mutual service between the individual student and his college is designed to develop men of intelligence, integrity, and culture. From this relationship there has grown through a century and more a sense of achievement and high competence that enables Duke men and women to make their place in the world as effective citizens whatever their careers may be.

Liberal Arts-Engineering Cooperative Program

Recognizing the desirability of combining a maximum of liberal arts studies with professional engineering training, the College of Engineering of Duke University has developed a special plan of cooperation with approved liberal arts colleges. Under this plan, which is often called the three-two plan, an outstanding student may follow an approved program of study at the cooperating liberal arts college for an initial period of three years and then complete his studies at the College of Engineering in two more years. At the end of the total period of five years, a degree of Bachelor of Arts or Bachelor of Science is granted by the liberal arts college, and a degree of Bachelor of Science in a designated branch of Engineering by the College of Engineering. Inquiries concerning this plan should be addressed to the Dean, College of Engineering, Duke University.

Organization

The Engineering Faculty Council considers and legislates on questions of curricula and adopts regulations concerning those educational, professional, and administrative matters pertaining exclusively to the College of Engineering. The Dean of the College of Engineering serves as Chairman of the Council. The membership includes the President of the University, the Vice-President in the Division of Education, the Dean of Undergraduate Studies, the Secretary of the Council, the Chairman and one additional representative from each department of Engineering, the Assistant to the Dean of Engineering, and three members from the University Faculty representing departments in which engineering students are required to take work.

Physical Plant

The College is on the West Campus in a modern building that was first occupied in January 1948. It has a total volume of 1,200,000 cubic feet and provides a floor area of 70,000 square feet. Each of three wings houses the laboratories and the special classrooms of one of the three engineering departments. The main portion of the building has offices, classrooms, and other general facilities.

These general facilities are for the use of all three departments of engineering. They include a library of some 21,000 volumes and 300 periodicals; an auditorium, where audio-visual instruction is given to large groups; a conference room; a student lounge; a photographic dark room; mimeographing and blueprinting facilities; and, of course, drafting rooms and classrooms.

The Summer Session

The Summer Session at Duke University makes available to Duke undergraduate students and to undergraduates from other universities and colleges a notable program of instruction in many fields of knowledge, both academic and professional.

Undergraduates from other colleges and universities may enjoy the special advantages of summer instruction at Duke and transfer their earned credits to their own institutions.

The Summer Session of 1955 will include two six-week terms: Term I, June 14 to July 23; Term II, July 26 to August 31. By attending both terms it is possible for a student to earn as many as twelve semester hours of credit.

Requests for further information should be addressed to the Director of the Summer Session, Duke University, Durham, N. C.

Officers of the College for the Year 1954-1955



General Administration

ARTHUR HOLLIS EDENS, B.Ph., A.M., M.P.A., Ph.D., LL.D. <i>President of the University</i>	2138 Myrtle Drive
PAUL MAGNUS GROSS, B.S., A.M., Ph.D. <i>Vice-President in the Division of Education</i>	3816 Dover Road, Hope Valley
CHARLES EDWARD JORDAN, A.B., LL.D. <i>Vice-President in the Division of Public Relations</i>	813 Vickers Avenue
HERBERT JAMES HERRING, A.B., A.M., LL.D. <i>Vice-President in the Division of Student Life</i>	2010 Myrtle Drive
ALAN KREBS MANCHESTER, A.B., A.M., Ph.D. <i>Dean of Undergraduate Studies</i>	2016 Myrtle Drive
ROBERT B. COX, A.B., A.M. <i>Dean of Undergraduate Men</i>	1107 Ninth Street
RICHARD LOVEJOY TUTHILL, A.B., M.A., Ed.D. <i>University Registrar</i>	1014 Gloria Avenue
EVERETT BROADUS WEATHERSPOON, A.B. <i>Director of Admissions, Trinity College and College of Engineering</i>	125 Pinecrest Road

Engineering Administration

WALTER JAMES SEELEY, E.E., M.S. <i>Dean and Director of Research and Development</i>	1005 Urban Avenue
EDWARD KREADY KRAYBILL, B.S. in E.E., M.S.E., E.E. <i>Assistant to the Dean of Engineering</i>	2726 Circle Drive
JAMES WESLEY WILLIAMS, A.B., B.S. in C.E., M.S. <i>Acting Chairman, Department of Civil Engineering</i>	206 Swift Avenue
CHARLES ROWE VAIL, B.S. in E.E., M.S. (E.E.) <i>Executive Officer, Department of Electrical Engineering</i>	2730 Circle Drive
VAN LESLIE KENYON, JR., B.S. in M.E., M.M.E. <i>Acting Chairman, Department of Mechanical Engineering</i>	Rt. 2, Hillsboro, N. C.

ENGINEERING FACULTY COUNCIL

Chairman: DEAN W. J. SEELEY.
Secretary: E. B. WEATHERSPOON.
Assistant to the Dean: E. K. KRAYBILL.
Civil Engineering: J. W. WILLIAMS, A. E. PALMER.
Electrical Engineering: C. R. VAIL, H. A. OWEN, JR.
Mechanical Engineering: V. L. KENYON, JR., F. J. REED.

Chemistry: J. H. SAYLOR.

History: I. B. HOLLEY.

Mathematics: F. G. DRESSSEL.

Ex-officio: President A. H. EDENS

Vice-President P. M. GROSS

Dean A. K. MANCHESTER.

COMMITTEE OF THE BOARD OF TRUSTEES ON ENGINEERING AND RESEARCH

E. L. JONES, E. W. WEBB, B. E. JORDAN, H. C. DOSS,

A. H. SANDS, JR., N. A. COCKE.

FACULTY COMMITTEES

Academic Standards: VAIL, ELSEVIER, WILLIAMS.

Building: KRAYBILL, FULTON, HAINES, VAIL.

Bulletin: KRAYBILL, FULTON, HARWELL, PALMER, VAIL.

Curriculum: FULTON, KENYON, KRAYBILL, PALMER, VAIL, WILLIAMS.

Engineering Publications: FULTON, ARGES, HARWELL, OWEN.

Freshman Advisors: KRAYBILL, ELSEVIER, GARDNER, HAINES, HOLLAND, LEWIS, MAC-
CONOCHIE, OWEN, PALMER, VAIL, WILLIAMS.

Study of Graduate Program: GARDNER, ELSEVIER, KRAYBILL, OWEN.

Lecture: KRAYBILL, GARDNER, KENYON, RABIN, VAIL, WILLIAMS.

Library: REED, KALE, VAIL, WILLIAMS.

Pictorial: OWEN, EDWARDS, HAINES, HARWELL, MACCONOCHIE, PIERRY.

Professional Registration: KENYON, EGERTON, PALMER.

Research and Projects: ELSEVIER, FULTON, GARDNER, OWEN, STOTTLEMYER, VAIL.

Schedule and Registration: KRAYBILL, EGERTON, HOLLAND, LEWIS.

Student Activities: KRAYBILL, FULTON, KENYON, PALMER, STOTTLEMYER, VAIL, WILBUR.

Summer Session: WILLIAMS, EGERTON, HOLLAND, KENYON, PALMER, VAIL, WILBUR.

Representatives to Undergraduate Faculty Council: ELSEVIER, GARDNER, KENYON,
KRAYBILL, OWEN, VAIL, WILLIAMS.

Upperclass Advisors: BOWERS, EGERTON, ELSEVIER, KENYON, PALMER, STOTTLEMYER,
VAIL, WILBUR, WILLIAMS.

Faculty Emeritus

HAROLD CRUSIUS BIRD, Ph.B., C.E.

Professor Emeritus of Civil Engineering

1209 Virginia Avenue

WILLIAM HOLLAND HALL, A.B., A.M., B.C.E., M.S.C.E.

Professor Emeritus of Engineering

922 Urban Avenue

RALPH SYDNEY WILBUR, B.S. in M.E., M.E.

Professor Emeritus of Mechanical Engineering

1018 Demerius Street

Faculty

KIRO PETE ARGES (1953), B.S. in C.E., M.S. in C.E.

Assistant Professor of Civil Engineering

915 Lambeth Circle

GILMORE BOWERS (1953), B.S. in E.E.

Instructor in Electrical Engineering

2305 Prince Street

*WADE GILLIES BROWN (1954), A.B.

Lecturer in Sanitary Engineering

1317 Arnette Avenue

* Spring Semester

- FRANK NICHOLAS EGERTON (1945), A.B., A.M., E.E.
Associate Professor of Electrical Engineering 411 North Gregson Street
- ERNEST ELSEVIER (1950), B.S. in M.E., M.S. in M.E.
Assistant Professor of Mechanical Engineering Rt. 1, Hillsboro, N. C.
- CHARLES DARBY FULTON, JR. (1950), B.E. in M.E., Sc.D.
Assistant Professor of Mechanical Engineering 1507 West Pettigrew Street
- WILLIAM HENRY GARDNER, JR. (1953), B.S. in C.E., M.Engrg.
Assistant Professor of Civil Engineering 2108 Cole Road
- HOWARD N. HAINES (1943), B.S.
Assistant Professor of Civil Engineering 2307 Club Boulevard
- RAY WALTER HOLLAND (1947), B.S. in M.E., M.S.
Assistant Professor of Mechanical Engineering 2528 Glendale Avenue
- CHESTER FAY HWANG (1954), B.S. in M.E.
Part-time Instructor in Mechanical Engineering 318 Clark Street
- VAN LESLIE KENYON, JR. (1945), B.S. in M.E., M.M.E.
Associate Professor of Mechanical Engineering
Acting Chairman, Department of Mechanical Engineering Rt. 2, Hillsboro, N. C.
- JACOB FRANK KOENIG (1954), B.S. in E.E., M.S. in E.E.
Assistant Professor of Electrical Engineering 1700 Duke University Road
- EDWARD KREADY KRAYBILL (1939), B.S. in E.E., M.S.E., E.E.
Associate Professor of Electrical Engineering
Assistant to the Dean of Engineering 2726 Circle Drive
- RALPH ELTON LEWIS (1941), B.S. in M.E., M.S. in M.E.
Assistant Professor of Mechanical Engineering 1401 Alabama Avenue
- IAN OLIPHANT MACCONOCHIE (1953), B.S. in M.E.
Instructor in Mechanical Engineering 702 Vickers Avenue
- †OTTO MEIER, JR. (1934), B.S. in E.E., M.S., E.E.
Associate Professor of Electrical Engineering 916 Monmouth Avenue
- HARRY ASHTON OWEN, JR. (1951), B.E.E., M.S.E.
Assistant Professor of Electrical Engineering 2602 Hillandale Road
- AUBREY EDWIN PALMER (1944), B.S. in Engrg., C.E.
Associate Professor of Civil Engineering 2519 State Street
- JAMES EMMET PETERSON (1954), B.C.E., M.S.C.E.
Instructor in Civil Engineering 1309 Washington Street
- ‡ROBERT FRANCIS PIERRY (1953), B.S. in C.E.
Instructor in Civil Engineering Rt. 1, Cornwallis Road
- DAVID RABIN (1954), B.S. in M.E., LL.B., LL.M. (Pat.)
Instructor in Mechanical Engineering 3701-A Manor Drive,
 Greensboro, N. C.
- FREDERICK JEROME REED (1935), M.E., M.S.
Associate Professor of Mechanical Engineering 2203 Englewood Avenue
- WALTER JAMES SEELEY (1925), E.E., M.S.
James B. Duke Professor of Electrical Engineering
Chairman, Department of Electrical Engineering
Dean and Director of Research, College of Engineering 1005 Urban Avenue
- WALTER GOLD SMITH (1953), B.S. in M.E.
Part-time Instructor in Mechanical Engineering 2842 Chapel Hill Road
- PAUL CLINTON STOTTELMYER (1953), B.S. in C.E., M.S. in Hyd. Engrg.
Assistant Professor of Civil Engineering 835 Louise Circle
- ROBERT WORTH TAYLOR (1954), B.S. in M.E.
Part-time Instructor in Mechanical Engineering Men's Graduate Center
- KENNETH JOHN THARP (1953), B.S. in C.E.
Instructor in Civil Engineering Apt. 03, 821 Demerius Street

† Absent on sabbatical leave, fall semester, 1954-55.

‡ Resigned February 1, 1955.

ROBERT LEON THURSTONE (1953), B.S. in E.E., M.S. in E.E. <i>Instructor in Electrical Engineering</i>	Chapel Hill, N. C.
CHARLES ROWE VAIL (1939), B.S. in E.E., M.S. (E.E.) <i>Associate Professor of Electrical Engineering</i> <i>Executive Officer, Department of Electrical Engineering</i>	2730 Circle Drive Rt. 3, Hillsboro, N. C.
LESLIE CLIFFORD WILBUR (1949), B.S. in M.E., M.S. <i>Assistant Professor of Mechanical Engineering</i>	
JAMES WESLEY WILLIAMS (1937), A.B., B.S. in C.E., M.S. <i>Associate Professor of Civil Engineering</i> <i>Acting Chairman, Department of Civil Engineering</i>	206 Swift Avenue

THE JONES CHAIR OF ENGINEERING

Established in 1951 by Edwin L. Jones, Sr., '12, Annabel Lambeth Jones, '12; Edwin L. Jones, Jr., '48; Lucille Finch Jones; and the J. A. Jones Construction Company in memory of James Addison Jones and Raymond A. Jones; a portion of the income to be used for a professorship in the College of Engineering.

Instruction in Non-Engineering subjects is given by members of the General Faculty listed in the Bulletin of Undergraduate Instruction.

Staff

MRS. GEORGE F. KALE <i>Librarian</i>	3325 Chapel Hill Road
MRS. DOROTHY H. McELDUFF, A.B. <i>Recorder and Secretary to the Dean</i>	100 Forest Wood Drive
JAMES WARREN DAVIS <i>Research Technician</i>	1004 East Club Boulevard
JOSEPH PHILIP EDWARDS <i>Laboratory Technician in Electrical Engineering</i>	1604 B Street
JOSEPH STEVENSON HOCUTT <i>Laboratory Technician in Mechanical Engineering</i>	Rt. 1, Hillsboro, N. C.
WALTER CLEVELAND HOCUTT <i>Part-time Laboratory Technician in Mechanical Engineering</i>	413 East Trinity Avenue
ALONZO GEORGE VAUGHAN <i>Laboratory Technician in Civil Engineering</i>	202 Adams Street
MRS. LEON S. BROOKS <i>Secretary, Electrical Engineering Department</i>	904 Arnette Avenue
MRS. RAYMON J. HAHN <i>Secretary, Mechanical Engineering Department</i>	855 Louise Circle
MRS. ROBERT P. NEELY <i>Secretary, Civil Engineering Department</i>	311 East Trinity Avenue

Admission to the College



CANDIDATES may qualify for admission as members of the freshman class or as students with advanced standing. Since the enrollment is limited, the Committee on Admissions selects students who, in its judgment, are best qualified to benefit from the educational advantages which the College offers. The Committee bases its decision on the academic record of the candidate, on test scores, and on satisfactory evidence of good character and general fitness for college life at Duke. A personal interview with an officer of the University and a visit to the campus are of material benefit to the candidate and the Committee.

ADMISSION TO THE FRESHMAN CLASS: A candidate for admission to the freshman class must present at least fifteen acceptable units of secondary-school credit. A unit of credit is allowed for a course of study pursued throughout an academic year in an accredited secondary school, provided five recitations a week have been held and the prescribed amount of work has been completed satisfactorily.

For admission to the College of Engineering seven of the fifteen units must be in English (3 units), chemistry or physics (1 unit), algebra ($1\frac{1}{2}$ units), plane geometry (1 unit), and solid geometry* ($\frac{1}{2}$ unit). The remaining eight units are elective. At least five of them must be in English, foreign language, history and social studies, mathematics, and science. It is recommended that these five be chosen from the following list:

English (in addition to the required 3 units)	1 unit
Algebra (in addition to the required $1\frac{1}{2}$ units)	$\frac{1}{2}$ to $1\frac{1}{2}$ units
Trigonometry	$\frac{1}{2}$ unit
Physics or chemistry or biology (in addition to the required unit)	1 to 3 units
Foreign languages	1 to 4 units
†History and social studies	1 to 4 units

The three additional units needed to make the total of fifteen may be chosen from those subjects for which the school allows credit toward graduation; but it is recommended that they also be chosen from the above list.

A graduate of an accredited secondary school who submits fifteen acceptable units of credit, who is recommended by his school principal,

* Any deficiency in this requirement must be made up before the beginning of the sophomore year.

† Candidates who do not present at least one acceptable unit of history must take history in college.

and who in all other respects meets the requirements of the Committee on Admissions may be admitted without examination. A candidate whose graduation is from a non-accredited school or about whom there may arise any other question as to qualification for admission may be required to take entrance examinations or such other tests as the Committee on Admissions may prescribe.

It is recommended that all candidates for admission to the freshman class take the Scholastic Aptitude Test of the College Entrance Examination Board or a similar program of tests administered on the Duke campus by the Duke University Bureau of Testing and Guidance. Details of the procedure to be followed in applying for either of these testing programs will be sent to each candidate for admission.

ADMISSION TO ADVANCED STANDING: A candidate for admission to advanced standing must have fulfilled the equivalent of the requirements for admission to the freshman class, must present official transcripts of all work completed in other institutions, and must have an honorable dismissal from each institution previously attended. Advanced standing candidates who have previously taken the Scholastic Aptitude Test of the College Entrance Examination Board should request the Board to send a report of their test scores to the Director of Admissions. All others are advised to take the Scholastic Aptitude Test or the program of tests administered by the Duke University Bureau of Testing and Guidance, as recommended for freshman candidates.

Credit for work completed at other institutions will be determined in relation to the curriculum requirements of the College of Engineering.

Credit for courses in science offered for advanced standing by a transfer from a junior college or a four-year college not affiliated with a regional accrediting association will be determined by the departments concerned.

Transfer credits are tentatively evaluated pending the completion of two semesters of work in residence. To validate provisional credits the student must earn at least an average of C in a normal load of work. Transfer credit, in which grades of C or above have been earned, is rated at two quality points per semester hour when validated. Courses in which grades of less than C have been earned are not acceptable for transfer credit.

The maximum amount of credit acceptable from a junior college is 60 semester hours, exclusive of physical education. No credit is given for work completed by correspondence, and credit for no more than six semester hours is allowed for extension courses. Any extension work accepted must be specifically approved by the Dean of the College.

ADMISSION OF SPECIAL STUDENTS: Upon the approval of the Dean, students of mature age may be admitted for special work in such courses of instruction as they are qualified to take. They may not be admitted as candidates for a degree in a regular course unless they meet all normal requirements for admission.

ADMISSION. PROCEDURE: Application for admission to the College of Engineering should be made to the Registrar, Duke University, Durham, North Carolina. Application forms and instructions will be sent to the candidate. It is the responsibility of the candidate to see that these forms are properly executed and, together with other requested material, sent promptly to the Office of Admissions.

Application prior to the final year of the secondary school course is not required. Formal steps looking toward admission should be initiated, however, early in the senior year. Candidates for admission are requested to file all credentials by March 1. Candidates will be notified as decisions are made.

READMISSION OF FORMER STUDENTS: A student who, following withdrawal from the College, desires to return should apply to the Registrar. When applying for readmission the student should make a detailed statement of his activities since leaving Duke University.

WOMEN STUDENTS: Women students enrolled in the College of Engineering live on the Woman's College campus and are subject to the general regulations of the Woman's College.

Financial Information and Living Accommodations



FEES paid by the students cover only a part of the cost of their instruction and of the operations of the University. Income from endowment and contributions from the alumni, alumnae, and other public-spirited men and women meet the balance, which constitutes more than half the total cost.

Fees

A registration fee of \$20.00 is required of all new students. This fee is payable only once; it is not refundable. A room deposit of \$25.00 is also required of all new students. A tuition fee of \$225.00 and a general fee of \$75.00 are payable at the beginning of each semester. The general fee is in lieu of special fees usually charged for matriculation, use of laboratories, student health service, commencement, etc.

An advance deposit of \$25.00 is required of all students in residence at the time of spring registration in order to reserve a place in classes for the fall semester. This is applied toward payment of the general fee at the opening of the fall semester. The deposit will be refunded to students whom the University does not permit to return. Students who of their own volition fail to return are not entitled to a refund.

An advance deposit of \$25.00 is also required of old students who have been out of school for one or more semesters and have been accepted for readmission. It is applied toward payment of the general fee for the semester of readmission. The advance deposit is paid at the time of notification of acceptance and is not refundable.

An Air Force ROTC deposit of \$20.00 is required of students enrolling in Air Science to cover possible loss of military equipment issued to them. This deposit is refunded to the student upon return of issued equipment.

Refunds of tuition and other fees are made to students who withdraw within 14 days after the beginning of the semester. On and after the fifteenth day all fees are considered as earned and no refunds are made.

Students who register during the regular academic year for no more than two courses with a maximum credit of 8 semester hours are classified as special students. They are charged a registration fee

of \$5.00 for each course, and \$12.00 for each semester hour of course credit. Students taking nine or more hours are charged full fees.

Auditors are permitted to attend classes provided they secure the consent of the instructor. They submit no daily work, take no examinations, and receive no credit. Students taking a full program and paying full fees may audit one or more courses without charge. Students not paying full fees are charged \$10.00 for each course each semester.

Students are entitled to one transcript free of charge. Additional copies are supplied at \$1.00 each. Records are not released when the Treasurer's Office reports an unpaid account.

Students may have their bills sent to parents or guardians provided the Treasurer has been notified in writing with sufficient antecedence. Failure of a student or of a parent or guardian to pay bills on the dates scheduled will debar the student from class attendance until his account is settled in full; subsequent withdrawal does not entitle him to a refund. No student is considered by the Faculty as a candidate for graduation until he has settled with the Treasurer for all his indebtedness to the University. A student who has not settled all his bills with the Treasurer is not allowed to stand the final examinations of the academic year.

Estimated Expenses for an Academic Year

Incidental expenses depend upon the tastes and habits of the individual, but the actual necessary expenses for an academic year are as follows:

	<i>Low</i>	<i>Moderate</i>	<i>Liberal</i>
Tuition	\$ 450.00	\$ 450.00	\$ 450.00
General Fee	150.00	150.00	150.00
Room Rent	175.00	175.00	225.00
Board	400.00	475.00	525.00
Laundry	30.00	40.00	50.00
Books	30.00	40.00	50.00
	<u>\$1235.00</u>	<u>\$1330.00</u>	<u>\$1450.00</u>

The actual fees and expenses necessary for one year in residence as a student in the College of Engineering need not exceed \$1235.00.

Student Aid

Duke University is interested in students with ability and ambition. It is the aim of the University Scholarship Committee and others affiliated with the Student Aid Program to provide, insofar as possible, the financial assistance required by worthy students. This assistance takes various forms. The actual cost to the University for each student exceeds the tuition and fees collected by approximately \$400.00 per year. The deficit is paid out of contributions and income from en-

dowment. Scholarships and prizes enable students with inadequate resources to reduce the amount payable to the University. Loans are made available, and through the Student Employment Offices part-time jobs are arranged. Through the Student Aid Program an earnest effort is made to eliminate the economic status of the student as a criterion for admission.

Scholarships, Scholastic Awards, Loans, Student Employment

JONES SCHOLARSHIP FUND

Established 1951 by Edwin L. Jones, Sr., '12; Annabel Lambeth Jones, '12; Edwin L. Jones, Jr., '48; Lucille Finch Jones; and the J. A. Jones Construction Company in memory of James Addison Jones and Raymond A. Jones; a portion of the income to be used for scholarship aid to worthy and qualified students in the College of Engineering.

ENGINEERING SCHOLARSHIP FUND

Established by gifts of various persons; to be used for scholarship aid to engineering students.

WESTINGHOUSE ACHIEVEMENT SCHOLARSHIP IN ENGINEERING

Established 1954 by the Westinghouse Educational Foundation. One award of \$500.00 per year is made to a junior in electrical or mechanical engineering on the basis of high academic achievement and demonstrated qualities of leadership. Selection of the recipient is made by representatives of the faculty of the College of Engineering and the University Scholarship Committee.

UNION CARBIDE AND CARBON CORPORATION SCHOLARSHIP IN MECHANICAL ENGINEERING

Established in 1953 by the Carbide and Carbon Chemicals Company. One award covering the tuition and fee charges and a \$200.00 stipend for living expenses is made annually to a senior in the mechanical engineering curriculum. The recipient is selected on the basis of the excellence of his record as a student.

AMERICAN VISCOSE CORPORATION SCHOLARSHIP IN ENGINEERING

Established in 1954 by the American Viscose Corporation. One award of \$500.00 per year is made to a junior or senior in the College of Engineering. Selection of the recipient is made on the basis of academic record and contributions to the program of the College.

THOMAS R. MULLEN, JR. SCHOLARSHIP FUND

Established April 5, 1949, by gift of T. R. Mullen in memory of his son; the income to be used for scholarship assistance to students in the College of Engineering. Preference is to be given students who are children of employees of the Lehigh Structural Steel Company or others nominated by the Company. Several awards are available each year.

For details concerning additional scholarships, awards, loans, and student employment see the *Bulletin of Undergraduate Instruction*.

Living Accommodations for Men

Craven, Crowell, Few and Kilgo Quadrangles on the West Campus are reserved for undergraduate men. These quadrangles contain 33

Houses designated by letters of the alphabet from House A through House HH. The rooms are equipped as single and as double rooms. In some areas communicating doors between rooms provide suites for three or four persons. Kilgo and a part of Crowell Quadrangle is reserved for members of the Freshman Class.

Undergraduate men are required to live in the Residence Houses unless they are married, or are living with parents or relatives. Any exception must be approved by the Dean of Men.

The rental charge for a single room is \$225.00 for the academic year, or \$112.50 each semester. The rental charge for the double room is \$350.00 for the academic year, or \$175.00 for each occupant, or \$87.50 for each occupant each semester. Rooms are rented for a period of not less than one semester unless by special arrangement with the Housing Bureau. For a shorter period of occupancy without special arrangement, the rate is \$1.00 per day with a minimum charge of \$25.00.

Room reservations are made with the Housing Bureau only after official acceptance for admission to the University. A \$25.00 room deposit is required of each applicant before a room reservation is made. The initial room deposit is effective during the student's residence in the University if his attendance is continuous in regular academic years. This deposit will be refunded under the following conditions:

- a. Within thirty days after the student has been graduated.
- b. Upon withdrawal from the University, provided written notice is received in the Housing Bureau by August 1, for cancellation of a reservation for the fall semester; and not later than January 15, for cancellation of a reservation for the spring semester.
- c. When the reasons requiring withdrawal are beyond the students' control.

No refund is made until the occupant has checked out of his room through the Housing Bureau and has settled all of his accounts with the Treasurer.

A resident student, in order to retain his room for the succeeding academic year, must make application at the office of the Housing Bureau for confirmation of the reservation in accordance with the plan that is published during the school year.

Any exchange of rooms must be arranged at the Housing Bureau. A charge of \$2.00 will be incurred for room changes made after September 1 in the fall and February 15 in the spring. Persons exchanging rooms without the approval of the Housing Bureau will be subject to charges for both rooms.

The authorities of the University do not assume responsibility for the persons selected as roommates. Each student is urged to select the roommate when the room is reserved.

Beds and mattresses (39" x 74"), tables, chairs, dressers, mirrors, and window shades are furnished by the University. The student supplies linens, blankets and pillows. Rugs, if desired, are not to exceed 54 square feet in size.

Duke University desires to provide for its students a residential environment conducive to academic achievement, the development of high ideals, and sound character. The institution asks and believes that each student will cooperate in achieving these aims by arranging his personal belongings in an orderly manner, by caring for the buildings and furniture as he would do in his own home, and by observing a code based on gentlemanly behavior in an educational environment which demands respect for all residents. Regulations governing the occupancy of rooms will be supplied directly from the Housing Bureau when the room reservations are made. Occupants are expected to abide by these regulations.

Living Accommodations for Women

Undergraduate women are required to live in Woman's College residence houses unless they are living with parents or close relatives in the City.

Dining Service

The dining facilities on the West Campus include three cafeterias with multiple-choice menus, and the Oak Room where full meals and *a la carte* items are served. The cost for the academic year ranges from \$375.00 to \$500.00, depending on the tastes of the individual. On the East Campus dining halls are located in the Union and in Southgate. Resident women may not board elsewhere than at these halls. The charge for board is \$200.00 per semester, payable at the time of registration.

In the Men's Graduate Center there is a cafeteria with multiple-choice menus and a Coffee Lounge where sodas and sandwiches are served from 11:30 A.M. to 11:00 P.M. The prices in these dining rooms are the same as on the West Campus.

Reserve Officers Training Corps



THROUGH the Naval and Air Force Reserve Officers Training program the University is cooperating with the Department of Defense in the effort to provide a steady supply of well-educated officers for the active and reserve forces of the nation.

The Naval Reserve Officers Training Corps

There are two basic programs through which students can qualify for Naval commissions upon graduation: one, the Regular Naval Reserve Officers Training Corps program, provides a maximum of four years in the University largely at government expense, followed by a temporary commission in the regular Navy or Marine Corps; the other, the Contract program, leads to a commission in the Naval Reserve or the U. S. Marine Corps Reserve.

THE REGULAR STUDENT—Scholarships are awarded on the basis of an annual nation-wide test and selection procedure. Students selected are appointed Midshipmen, USNR, and receive for a maximum of four years tuition, fees, and textbooks at government expense plus retainer pay at the rate of \$600 per year. The regular midshipman may take any course leading to a baccalaureate or higher degree with certain exceptions, e.g., pre-medicine and medicine, pre-theology and theology, music and art. His academic program must include 24 semester hours of naval science and a minimum of 3 semester hours of physics. In addition, 3 semester hours of trigonometry will be required if he has not previously completed such a course in a secondary school. The Regular goes on two summer training cruises aboard ship and receives aviation and amphibious indoctrination at naval shore stations the third summer.

Upon graduation he must accept a commission as Ensign, USN, or Second Lieutenant, USMC, if offered, after which he serves on active duty with the fleet for three years, if required by the Secretary of the Navy. Toward the end of the required active duty, he may request retention in the regular Navy or Marine Corps, or at his option be commissioned in the Reserve. Officers commissioned in the Reserve under such an option may be released to inactive duty except in times of national emergency.

THE CONTRACT STUDENT—The contract student is selected from those regularly enrolled in Duke University who desire to qualify

for a commission in the Naval or Marine Corps Reserve while pursuing their normal courses of study. There is no restriction on the course of study which a contract student may pursue; nor is he required to take college physics while in the program. He must include in his academic program trigonometry (if not successfully completed in secondary school), and 24 semester hours of naval science. He has the status of a civilian who has entered into a mutual contract with the Navy and is not eligible for the benefits and retainer pay received by regular Midshipmen. He is paid a subsistence allowance during his last two years in the NROTC, however, amounting currently to 90 cents per day. He goes aboard ship for one summer training cruise, normally between his junior and senior years. Upon graduation, he is commissioned in the Naval or Marine Corps Reserve and, if needed, reports for two years' sea service. Upon completion of the minimum active service requirements he may request transfer to the regular component of the Navy or Marine Corps, retention on active duty as a reservist, or transfer to the inactive reserve for a period of six years.

Both Regular and Contract midshipmen are deferred from Selective Service by virtue of their commitment to serve on active duty after graduation. The Navy furnishes necessary uniforms and equipment. Uniforms are worn only on drill days or other special occasions when prescribed by the Professor of Naval Science. Regular and Contract students receive the same instruction and wear the same uniforms. No distinction is made between the two, except in the handling of their records.

The Air Force Reserve Officers Training Corps

The unit functions as a regular department of instruction known as the Department of Air Science. It selects and trains students who possess the requisite character, intelligence, desire, and sense of duty to become Air Force officers.

For enrollment in the Basic Course (freshman and sophomore years) the student must: be a male citizen of the United States; be physically qualified under standards prescribed by the Air Force (due allowance will be made for defects which are correctible prior to the student's eligibility for appointment as a commissioned officer); be accepted by the institution as a regularly enrolled student; be not less than 14 years of age and not have reached 23 years of age at the time of enrollment; have successfully completed such general survey and screening tests as may be prescribed; and must have signed a loyalty certificate with the U. S. Government. Students initially entering the University who have had previous preparatory or high school military

training are normally accepted in Basic Air Science at the same academic level as that in which they are accepted by the University.

For enrollment in the Advanced Course (junior and senior years) the student must have successfully completed the Basic Course or have had at least one year of honorable service in the Armed Forces of the United States; must have executed a written agreement with the government to complete the Advanced Course *and accept a commission in the United States Air Force Reserve*, contingent upon remaining in school, and to attend the Advanced Summer Camp at the time specified; must have agreed to take orientation flights when offered; must be less than 28 years of age at the time of graduation; must have successfully completed such general survey and screening tests as may be prescribed; and be selected by the Professor of Air Science and the appropriate authority of the University.

All uniforms, texts, and training equipment required for the Air Science Course are furnished at government expense, and students are paid a total of approximately \$600.00 for the two years of the Advanced Course.

Since the primary need of the Air Force is for flying officers, the great majority of students selected for Advanced Air Science must be physically qualified and desirous of applying for flying training after graduation. Upon graduation and completion of the Advanced Course, selected students will be offered commissions as Second Lieutenants in the Air Force Reserve. Reserve officers who desire lifetime careers in the Regular Air Force may apply for regular commissions after serving on active duty for one year.

Students in the Basic Course may be deferred from Selective Service upon satisfactory completion of one semester of Basic Air Science. Advanced students are eligible for deferment as soon as they are enrolled formally in the Advanced Course. Selection for deferment is made by a board composed of representatives from the AFROTC and the University.

The Bureau of Testing and Guidance



THE University maintains a Bureau of Testing and Guidance which provides a program of educational, vocational, and personal counseling for students. In addition, the Bureau administers special group testing programs for University schools and departments and serves as the local testing center for a wide variety of national testing programs. The Bureau also carries on programs of research

in the field of measurement and counseling. Although the counseling, testing, and research services of the Bureau are designed primarily to meet the needs of the students, the faculty, and the staff of Duke University, these services are made available to individuals and organizations outside the University as its facilities permit. Requests for further information should be addressed to the Director, Bureau of Testing and Guidance, Duke University, Durham, N. C.

Appointments Office



THE APPOINTMENTS OFFICE is a service agency designed to aid graduates in solving the problem of post-college employment. Its primary function is to serve as an intermediatry between students and prospective employers. It acquaints students with possibilities in business and professional fields, it assembles comprehensive records on each registrant and makes these records available to appropriate representatives, and it arranges interviews with prospective employers. The data assembled for individual records include academic achievement, training, experience, extracurricular activities, and honors. On occasion additional information of a special nature is secured. Confidential letters of recommendation are incorporated in the file of each registrant. The Office initiates contacts for students or cooperates with students who make contacts through personal efforts or through various departments of the University. It aids the registrant in directing his search to a field appropriate to his aptitude, training, and interest.

There are two major divisions of the Office: the Commercial Division, which handles all matters involving contacts with business and professional areas not related to formal education; and the Educational Division, which concerns itself with teaching and school administration positions at all levels. Students and alumni may register with either or both of these divisions.

The Office receives more calls for qualified personnel than it can supply from its registrants. It is to the mutual advantage of the students and the Office that a complete record of registrants be assembled by the fall of the senior year.

Registration and Academic Regulations



ORIENTATION PROGRAM: All freshmen and transfer students are required to participate in the Activities of Orientation Week. The program includes general ability, achievement, and placement tests, orientation lectures, physical examinations, social events, special religious services, registration, and enrollment.

The University considers the planning of a course of study to be of primary importance. Perhaps the most significant moments of Orientation Week, therefore, are those which a new student spends with his faculty adviser. With the results of the several tests which all freshmen take available to them, the adviser and the student plan a course of study adapted to the ability, achievements, and goals of the individual student. New students who miss the whole or a part of the Orientation Program place themselves at a serious disadvantage at the very outset of their college career.

MATRICULATION AND REGISTRATION: Students in residence are required to submit to the Dean, not later than the date of the spring registration, cards showing their selection of courses for the following year. An advance deposit of \$25.00 is required before the card may be submitted. These cards, approved by the Dean, are filed for permanent record in the Dean's office. Students who do not select their courses for the following year at the time appointed must pay a fee of \$5.00 to the Treasurer of the University before their course cards may be approved for the fall. Students whose course cards have been approved in the spring may matriculate by mail during the summer. The same regulations, with the exception of the advance deposit, apply to registration for the spring semester.

Students who register in either semester at a date later than that prescribed in the calendar of this Bulletin must pay to the Treasurer a fee of \$5.00. They are counted as absent in the work they have missed in the courses to which they are admitted, and these absences carry the same penalty as do other absences from the course. Changes in courses for reasons not arising within the University require a payment of \$1.00 for each change made. No course may be elected later than two weeks after the opening of the semester, and no student may be admitted to any class without an enrollment card.

General Academic Regulations

QUANTITY CREDIT AND COURSE LOAD: The term of credit used is the semester hour, which signifies one recitation a week throughout the semester. Three hours of laboratory work are equivalent to one hour of class work. Two semesters of seventeen weeks each constitute the academic year. For the degree of Bachelor of Science in Engineering, credit for 148 semester hours is required.

In the College of Engineering the normal load is 18 semester hours, exclusive of physical education. No student is permitted to take less than 14 semester hours of work without special permission from the Dean or to take more than the normal load of work unless his average grade in the preceding semester is higher than C.

QUALITY CREDIT: The requirements for the degree are computed not only in semester hours but also in quality points. Quality points are earned by a student on the basis of his grades: for an A he receives four quality points for each semester hour; for a B, three quality points for each semester hour; for a C, two quality points for each semester hour; for a D, one quality point for each semester hour; for an F, no quality points. Credit for at least 296 quality points is required for a degree in Engineering.

REQUIREMENTS FOR CONTINUATION IN COLLEGE AND FOR GRADUATION FROM COLLEGE: To continue in college and to graduate a student must, in addition to the requirements listed elsewhere in this Bulletin, pass a minimum number of semester hours, achieve a specified quality point ratio, and in the case of graduation earn a minimum number of quality points. The quality point ratio is calculated by dividing the accumulated number of quality points earned by the accumulated number of semester hours carried (not semester hours passed). These requirements are listed in the following table:

<i>For continuation from</i>	<i>The minimum requirement is</i>
The first to the second year	18 s.h. credit and a q.p.r. of 1.2
The second to the third year	42 s.h. credit and a q.p.r. of 1.4
The third to the fourth year	66 s.h. credit and a q.p.r. of 1.6
The fourth to fifth year, if needed	90 s.h. credit and a q.p.r. of 1.75
<i>For graduation from</i>	<i>The minimum requirement is</i>
Trinity and the Woman's College	124 s.h., 248 q.p. and a q.p.r. of 1.9
The College of Engineering	148 s.h., 296 q.p. and a q.p.r. of 1.9

The minimum standards for continuation in the College of Engineering are the same as those listed above, but since the semester hour requirement for graduation in engineering exceeds the requirement of the liberal arts colleges, the standards may be adjusted to meet the special requirement of the College. Moreover, application of these

standards is based on the courses required in the engineering curriculum.

CLASS STANDING: A student to rank as a sophomore must have to his credit at least 30 semester hours and 60 quality points; as a junior, at least 68 semester hours and 136 quality points; and as a senior, at least 106 semester hours and 212 quality points. Class standing within the College of Engineering must, however, be determined by the length of time necessary to complete the curriculum requirements for the particular degree in engineering.

RESIDENCE REQUIREMENT: A minimum of 36 semester hours of senior-level work in the College of Engineering must be earned in residence. A student who meets this requirement but who still lacks six to eight semester hours in final fulfillment of requirements may take this work in another institution of approved standing provided the course is approved by the head of the department concerned and by the Dean. His grades on this work must not be below C.

Grading, Attendance, Reports, Dismissal, and Examinations

GRADING: Grades are reported so as to indicate one of four things.

(1) *Passed.* A, B, C, and D are all passing grades. The letters are intended to indicate the following quality of work: A, exceptional; B, superior; C, medium; D, inferior.

(2) *Failed.* A grade of F indicates that the student has failed the course, and in order to receive credit for the course he must repeat the work in class.

(3) *Incomplete.* (a) A grade of I may be reported by the instructor if for any reason he is unable to report the final grade at the regular time. (b) Incomplete courses must be completed before the close of the succeeding semester; otherwise the I is recorded as F, and the course must be repeated in class if the student is to receive credit for it.

(4) *Absent from final examination.* (a) The grade X indicates that the student was absent from the regularly scheduled examination. (b) A student absent from examination, if the absence has been excused by the Dean, may receive an examination upon the payment of a fee of \$3.00 to the Treasurer of the University. The instructor concerned arranges for the examination. (c) A student with an X grade who has not obtained a passing grade before the end of the semester following that in which the X was incurred is regarded as having failed in the course concerned and must repeat the work in class in order to receive credit. (d) If a student's absence from an examination is not

excused by the Dean, his grade for the course concerned shall be recorded as F.

If a student drops a course without permission from the Dean, the grade for that course shall be recorded as F. If he drops with permission a course in which he is failing at that time, the grade for that course shall be recorded as F unless, in the judgment of the Dean, circumstances do not justify this penalty.

ATTENDANCE: Regular and punctual attendance in class work is expected of all students. Weekly reports of all absences, irrespective of class standing, are made by each instructor and filed in the dean's office. No instructor has the authority to excuse a student from class attendance; it is his duty to report all absences and tardies.

The requirements for continuation in college and for graduation from college emphasize the desirability of assumption by the student of responsibility for class attendance. Controls are exercised, therefore, only during the first two years of college residence. Thereafter, full responsibility is placed on the student.

(1) *Regulations applicable during the first two years of college residence:*

One unexcused absence per semester hour without penalty is allowed for personal obligations. Sophomores who in a normal schedule make averages of B or above in the preceding semester will be allowed two absences per semester hour for personal obligations, but will in all other respects be subject to the same regulations as other students.

The first three tardies in a given course are counted as one absence. Thereafter, each additional tardy is counted as one additional absence.

Absences due to illness when certified by a proper medical official will be excused. Absences due to authorized representation of the University may be excused. Officials in charge of groups representing the University are required to submit names of those persons to be excused to the appropriate dean's office forty-eight hours in advance of the hour when their absences are to commence. Absences due to individual and personal reasons will not be excused.

All absences immediately before and after announced holidays result in a loss of two quality points for each absence in each class. Absences at the beginning of each semester are counted as double. Unexcused, consecutive absences, whether excessive or not, result in the loss of quality points as in the case of unexcused, excessive absences. Each excessive or consecutive absence results in the loss of quality points as follows: one quality point for the first absence, two additional for the second, and three additional for the third. When the third unexcused, excessive or consecutive absence occurs, the student is debarred from the course with a loss of six quality points and an F in

the course. When the student has taken twelve absences, excused and unexcused, in any course he is required to drop the course unless the instructor and the dean concerned grant special permission for him to continue in the course.

When a student's course load is reduced, due to excessive absences, to less than 12 semester hours, he is required to withdraw from the University.

(2) Regulations applicable after two years of college residence:

Responsibility for attendance, except for classes before and after holidays, is placed on juniors and seniors. For absences before and after announced holidays two quality points are deducted for each absence in each class. Instructors are expected to refer to the dean for appropriate action any student who in their opinion is causing his work or that of the class to suffer by virtue of absences or tardies.

REPORTS: Reports on class attendance and proficiency in academic work are sent to parents or guardians after the examinations at the end of each semester. In addition, reports on freshmen are mailed at each mid-semester period.

DISMISSAL: A student of the freshman class to remain in the University must pass at least 6 semester hours of work in his first semester and 18 semester hours in his first year. All other students must pass at least 9 semester hours each semester. A student who is ineligible to re-enter in September is ineligible to enter the Summer Session. The University may require a student whose record is considered unsatisfactory to withdraw although he has met the minimum requirements set forth in this paragraph.

EXAMINATIONS: Final examinations are held in all subjects in January and May.

DEFICIENCIES IN ENGLISH COMPOSITION: Any student who must take English 1 and whose score on the English placement test indicates that he is not ready for English 1 must earn a passing grade in English L before being permitted to enter English 1.

Whenever the work of a student in any course is unsatisfactory because of errors in English, the instructor may report the student to the Dean, who will require him to enroll in remedial English until, in the opinion of the Remedial Laboratory, the deficiency is removed.

All instructors are requested to advise their students each semester concerning this regulation.

Activities



STUDENT BRANCHES OF ENGINEERING PROFESSIONAL SOCIETIES

The three Departments of the College of Engineering support student branches of the following national professional engineering societies:

American Institute of Electrical Engineers, American Society of Civil Engineers, American Society of Mechanical Engineers.

ENGINEERING HONORARY SOCIETIES

Tau Beta Pi (Engineering national honor society—Gamma chapter of North Carolina).

Eta Kappa Nu (Electrical engineering national honorary society—Duke University Branch of Eta chapter).

Pi Tau Sigma (Mechanical engineering national honorary society—Pi Iota chapter).

Order of St. Patrick (Honorary society recognizing leadership in engineering student activities).

ENGINEERS STUDENT COUNCIL

The Engineers Student Council, composed of approximately 20 members from the various organizations and classes in the engineering student body, coordinates the activities of all student organizations in the College of Engineering. The Council acts to represent the interests of the students in their relationships with the public, the faculty, and the administration. The Council is responsible for such activities as the Engineers' Show, Christmas decorations, homecoming displays, the student Lounge, and social events.

ENGINEERING STUDENT PUBLICATION

The DukEngineer, official student-published magazine of the College of Engineering which appears twice each semester, contains articles on technical and semi-technical topics and other matters of interest in the College.

ENGINEERS' RADIO ASSOCIATION

Membership in the Engineers' Radio Association is open to all students of the College of Engineering who have an interest in amateur radio. The Association operates amateur radio station W4AHY and conducts code and theory classes for members who desire to obtain a Federal Communications Commission license.

GENERAL ACTIVITIES OPEN TO ENGINEERS

The Young Men's Christian Association; Debate Council; Duke Players; Duke University Church (Interdenominational); Duke University Handbook and Directory; Freshman Advisory Council; Hoof 'n' Horn Club; Interfraternity Council; Intramural Athletic Department; Pegram Chemistry Club; Shoe and Slipper Club; Student Religious Council; Town Boys' Club; Young Democrats Club; Young Republicans Club; Duke University Instrumental Music Association; Men's Glee Club; The University Chapel Choir; *The Archive* (Monthly); *Chanticleer* (Annual); *Chronicle* (Weekly); *Duke Peer*; The Student Broadcasting System.

GENERAL HONORARY SOCIETIES

In addition to the national engineering student honorary societies, students of the College of Engineering are eligible for membership in the following national honorary societies:

Phi Beta Kappa (Scholarship); *Sigma Xi* (Scientific Research); *Omicron Delta Kappa* (Leadership—Men); *Phi Eta Sigma* (Freshman Scholarship); *Pi Mu Epsilon* (Mathematics); *Sigma Pi Sigma* (Physics); *Sigma Delta Pi* (Spanish); *Tau Kappa Alpha* (Forensic); *Tau Psi Omega* (French); *Theta Alpha Phi* (Dramatic); *Delta Phi Alpha* (German).

Local honorary societies for which engineers are eligible include: *Red Friars* (Leadership); *Beta Omega Sigma* (Sophomore Leadership).

NATIONAL SOCIAL FRATERNITIES

Alpha Tau Omega; Beta Theta Pi; Delta Sigma Phi; Delta Tau Delta; Kappa Alpha; Kappa Sigma; Lambda Chi Alpha; Phi Delta Theta; Phi Kappa Psi; Phi Kappa Sigma; Pi Kappa Alpha; Pi Kappa Phi; Sigma Alpha Epsilon; Sigma Chi; Sigma Nu; Sigma Phi Epsilon; Tau Epsilon Phi; Theta Chi; Zeta Beta Tau.

HONORS

To be eligible for Honors, a student must earn during the year a credit of not less than thirty-six semester hours. Students in the freshman, sophomore, and junior classes who earn an average of at least three and one-half quality points per semester hour are given Honors. All semester hours on which a student receives a grade are counted in the determination of Honors.

The degree of Bachelor of Science in Civil, Electrical, or Mechanical Engineering with distinction is conferred under the following rules:

Students who have completed a minimum of ninety semester hours in Duke University are eligible for general Honors at graduation. Those who earn an average of at least three and one-half quality points per semester hour are recom-

mended for a degree *magna cum laude*. Those who earn an average of at least three and three-fourths quality points per semester hour are recommended for a degree *summa cum laude*.

PRIZES

The Sigma Xi Prize: The Society of the Sigma Xi, national scientific research society, is devoted to the encouragement of scientific research and seeks to stimulate those who show promise of accomplishment in this field. As an encouragement to younger men and women the Duke Chapter of Sigma Xi has established several prizes to be awarded annually, among them a prize for an outstanding undergraduate project or paper.

Julia Dale Prize in Mathematics: This is a prize of books given annually to the undergraduate who shows the greatest proficiency in the study of the calculus.

The Milmow Prize: This prize, consisting of one year's subscription to the *Electrical World*, is awarded each year to that student from North or South Carolina graduating in the Department of Electrical Engineering, who, in the opinion of the faculty of that department and as shown by his grades, has made the most progress in electrical engineering during his last year in college.

The Tau Beta Pi Prize: The North Carolina Gamma Chapter of Tau Beta Pi, national honorary engineering society, awards each year a suitable prize, such as an engineering handbook, to a sophomore student in engineering for outstanding scholastic achievement during the freshman year.

The William Senhauser Prize is given by his mother in memory of her son, a member of the class of 1942, who lost his life in the Pacific Theatre of War on August 4, 1944. The award is made annually to the sophomore or junior in Trinity College or the College of Engineering who has made the greatest contribution through participation and leadership in intramural sports. The winner of this prize is chosen by a committee selected by the President of the University.

The Degree of Bachelor of Science in Engineering



THE studies in the College of Engineering are designed for students who are preparing for civil, electrical, or mechanical engineering as a profession. These studies lead to the following degrees: B.S. in C.E., B.S. in E.E., and B.S. in M.E. All curricula of the College are fully accredited by the Engineers' Council for Professional Development.

Uniform Requirements

Each of these degrees requires 148 semester hours of work, four of which are in physical education. A student must maintain at least a C average both in the entire program and in his senior year.

Besides the courses in their special fields, the three departments of the College—the Civil, the Electrical, and the Mechanical—require (1) a uniform program during the student's first year and (2) supplementary work in general courses throughout his last three years. The general courses are listed below. The special program of each department is given in the section of this Bulletin devoted to the specific department.

Air Force Reserve Officers' Training Corps and Naval Reserve Officers' Training Corps students who are majoring in engineering take the standard programs of their departments of specialization with certain exceptions that are noted under the respective departments.

General Courses of Instruction

REQUIRED NONENGINEERING SUBJECTS

CHEM. 1-2. GENERAL INORGANIC CHEMISTRY.—Lectures, recitations, and laboratory work on the elementary principles of chemistry and on the occurrence, preparation, properties, and uses of the elements and their compounds. One lecture, two recitations, and three laboratory hours, throughout the year. 8 s.h.

ECON. 51-52. PRINCIPLES OF ECONOMICS.—For sophomores. 6 s.h.

ENGL. 1. ENGLISH FUNDAMENTALS.—Required of freshmen whose scores on the placement tests indicate that they are not ready for English 1. Students who fail in English 1 must repeat the course. Students who have earned credit in English 1 must also take English 1 and 2. 3 s.h.

ENGL. 1-2. ENGLISH COMPOSITION.—Required of all freshmen. 6 s.h.

ENGL. E-93. ADVANCED COMPOSITION FOR ENGINEERS.—This course concentrates on those forms of writing most needed by men in technical fields, especially engineering. Among other types of writing, it includes business letters,

technical reports, and semi-technical articles. Open to non-engineering students only upon consent of the instructor. Prerequisites: English 1 and 2. 3 s.h.

ENGL. 151. ESSENTIALS OF PUBLIC SPEAKING.—A basic course designed to give the poise necessary to speak freely before an audience. Particular attention on speech materials and oral presentation. 3 s.h.

HIST. E1-2. THE UNITED STATES IN THE WORLD TODAY.—Designed for students in the College of Engineering. First semester: the rise of national states in Western Europe and other circumstances attending the discovery and settlement of the New World; the foundation of American institutions; the establishment of the Federal Republic; the frontier, the westward movement, and contemporary international development; the Civil War; the growth of industry and its influence on society; the Spanish-American War and the emergence of the United States as a world power. Second semester: the growing interdependence of the Western Nations in the twentieth century; their influence throughout the world; the participation of the United States in the World Wars, and the resulting problems of today. 6 s.h.

MATH. 1. INTERMEDIATE ALGEBRA.—Elementary topics, factoring, fractions, linear equations in one, two, and three unknowns, functions and graphs, exponents and radicals, elements of quadratic equations. Prerequisite: one unit in algebra and one in geometry. Required before Mathematics 5 when necessary. 3 s.h.

MATH. 5. COLLEGE ALGEBRA.—Advanced topics in quadratic equations, systems involving quadratics, variation, binomial theorem, progressions, inequalities, theory of equations, permutations and combinations, probability, determinants, partial fractions. This course and Mathematics 6 may be taken concurrently. 3 s.h.

MATH. 6. PLANE TRIGONOMETRY.—Logarithms, right and oblique triangles, radian measure, graphs of trigonometric functions, inverse trigonometric functions, trigonometric identities and equations, complex numbers. This course and Mathematics 5 may be taken concurrently. 3 s.h.

MATH. 50. PLANE ANALYTIC GEOMETRY.—Rectangular and polar co-ordinates, loci, straight lines, conic sections. This course and Mathematics 51 may be taken concurrently. Prerequisites: Mathematics 5 and 6. 3 s.h.

MATH. 51. CALCULUS I.—Differentiation of elementary functions, curve tracing, maxima and minima, motion. Must be preceded or accompanied by Mathematics 50. 3 s.h.

MATH. 52. CALCULUS II.—Integration of elementary functions, areas, solids of revolution, length of arc, surfaces of revolution, centroids, moments of inertia, pressure, curvature, indeterminate forms. Prerequisite: Mathematics 51. 3 s.h.

MATH. 53. CALCULUS III.—Introduction to solid analytic geometry, partial differentiation, multiple integrals, series, introduction to differential equations. Prerequisite: Mathematics 52. 3 s.h.

MATH. 131. ELEMENTARY DIFFERENTIAL EQUATIONS.—Solution of elementary types; formation and integration of equations arising in applications. Prerequisite: Mathematics 52. 3 s.h.

PHYS. 51-52. GENERAL PHYSICS.—Treats the basic principles of general physics in a more quantitative manner than Physics 1-2. Not open for credit to students who have taken Physics 1-2. Four lecture-recitations and one three-hour laboratory period each week. Prerequisite: Mathematics 5-6 or equivalent (Mathematics 5 may be taken concurrently). 10 s.h.

AIR SCIENCE COURSES

BASIC COURSES

AS 1-2. FIRST YEAR BASIC AIR SCIENCE.—This course introduces the student to the AFROIC Program and the field of aviation. The fundamentals of global geography are studied in relationship to international tensions and the resulting formation of security organizations. The course concludes with an analysis of the instruments of national military security. 4 s.h.

AS 51-52. SECOND YEAR BASIC AIR SCIENCE.—Stress is laid upon the elements and potentials of air power including targets, weapons, aircraft, air oceans, air bases, and Air Force organizations. A survey is made of the careers open to personnel in the Air Force. 4 s.h.

ADVANCED COURSES

All students selected to continue in Air Science pursue:

AS 101-102. FIRST YEAR ADVANCED AIR SCIENCE.—The first semester is concerned with the Air Force commander and his staff; techniques of problem solving; communications processes and Air Force correspondence; instructing in the Air Force. The second half of the course deals with military law, courts and boards and applied air science including problems of modern flight, navigation and weather. The functions of an Air Force Base are studied also. Prerequisites: AS 1-2 and 51-52 or equivalent. 8 s.h.

AS 201-202. SECOND YEAR ADVANCED AIR SCIENCE.—The first semester includes career guidance, seminar studies in the principles of leadership and management in the Air Force, and military aviation and the evolution of warfare. The second semester is concerned with the military aspects of world political geography and concludes with a briefing for commissioned service. Prerequisites: AS 1-2 and 51-52 or equivalent, and AS 101-102. 8 s.h.

NAVAL SCIENCE COURSES

Standardized titles and designators for courses are established by the Bureau of Naval Personnel for use at the 52 NROTC Institutions. The first digit indicates the year of the course; the second digit indicates whether semester or quarter (0 for semester, 1 for quarter); the third digit indicates the semester or quarter of school year in which offered. Specialized courses for Marine Corps officer candidates are indicated by the letter "M" after the designator, and substitute for the basic course of the same number.

NS 101. NAVAL HISTORY.—History of navy regulations, naval customs and courtesies considered basic to further study of Naval Science; naval history, relating the rise and fall of sea power to other aspects of world history as a basis for understanding the role of navies in the world today. 3 s.h.

NS 102. NAVAL ORIENTATION.—Introduction to carrier, air, surface, under-sea, and amphibious warfare; basic types, characteristics, capabilities, and limitations of naval vessels; deck seamanship; naval formations and maneuvers. 3 s.h.

NS 201. NAVAL WEAPONS.—Evolution of naval ordnance; types and properties of explosives; principles in design and assembly of guns and ammunition; gun assembly types and operation, capabilities and limitations of past, present and future weapons systems; principles and use of radar and radar systems; elements and principles in the problem of control of naval weapons against air and surface targets. 3 s.h.

NS 202. NAVAL WEAPONS.—The elements of representative gunfire control systems; principles in the mechanical and electronic solution of fire-control problems; principles in the alignment and maintenance of gun batteries; organization and functions of the combat information center; naval gunfire support of amphibious operations; principles and use of anti-submarine warfare devices and systems; principles of torpedoes, mines, rockets, and guided missiles. 3 s.h.

NS 301. NAVAL ENGINEERING.—Principles of steam engineering as related to naval installations for main propulsion and auxiliaries; future trends in naval engineering plants; ship stability and buoyancy in the practice of ship design and damage control; a general understanding of diesel engines. 3 s.h.

NS 301M. EVOLUTION OF THE ART OF WAR.—A survey of the evolution of weapons, strategy, tactics and materiel; illustration of the classic principles of war by a study of selected battles and campaigns; a summary of the development of U. S. military and foreign policy. For Marine Corps candidates. 3 s.h.

NS 302. NAVIGATION.—Magnetic and gyro compasses; principles of chart construction; dead reckoning; piloting; nautical astronomy, including a study of the actual and apparent motion of the earth and studies of celestial coordinates, time systems, the astronomical triangle, and identification of stars and planets; solutions of observations for lines of position; complete day's work in practical navigation. 3 s.h.

NS 302M. MODERN BASIC STRATEGY AND TACTICS.—Modern tactical principles and techniques, especially on the small unit level, illustrated by contemporary historical examples; development of a general understanding of strategy. For Marine Corps candidates. 3 s.h.

NS 401. NAVAL OPERATIONS.—Tactics and operations including concepts of combined fleet, force, and group operations; watchstanding duties afloat; relative motion and its application to tactical maneuvering; electronic navigation; communications from ship to ship through fleet levels; Rules of the Nautical Road. 3 s.h.

NS 401M. AMPHIBIOUS WARFARE.—History and development of amphibious operations and organizations; analyses of amphibious operations of World War II and of the Korean action. For Marine Corps candidates. 3 s.h.

NS 402. NAVAL ADMINISTRATION.—Structure of the Navy; organization and administrative procedures; principles of personnel management; elements of military law; leadership and personal relations. 3 s.h.

NS 402M. AMPHIBIOUS WARFARE, PART II.—Further study of selected amphibious operations; Uniform Code of Military Justice; leadership. For Marine Corps candidates. 3 s.h.

General Engineering Subjects

1. ENGINEERING DRAWING.—The study of mechanical drawing with emphasis on third angle projection, pictorial drawing, dimensioning, working drawings, pencil and ink techniques. 2 s.h. ASSISTANT PROFESSORS HAINES AND LEWIS

2. DESCRIPTIVE GEOMETRY.—A study of drawing board geometry with emphasis on line and plane problems, developments, and intersections. Further emphasis on drawing techniques. Prerequisite: GE 1. 2 s.h. ASSISTANT PROFESSORS HAINES AND LEWIS

57. STATICS.—Concurrent forces, parallel forces, nonconcurrent and nonparallel forces, centroids, friction, moment of inertia. Prerequisite: GE 1. Mathematics 52 concurrent. 3 s.h. STAFF

58. DYNAMICS.—General principles of dynamics as applied to particles and rigid bodies. Translation, rotation, general plane motion, work, energy and power, impulse and momentum, gyroscopic motion, introduction to vibrations and balancing of rotating bodies. Prerequisites: GE 57 and Mathematics 52. 3 s.h. STAFF

107. STRENGTH OF MATERIALS.—Elastic bodies under stress; flexure of simple, overhanging, fixed and continuous beams; columns; combined stresses, etc. For CE students, the laboratory work is included in course CE 118. Other students should take course GE 109 for laboratory. Prerequisites: GE 57, Mathematics 52. 3 s.h. STAFF

109. STRENGTH OF MATERIALS LABORATORY.—Study and use of testing machines and strain gages. Tests to determine significant physical properties of the common engineering materials. Experimental verification of the elementary theory of structural members. Must be preceded or accompanied by GE 107. 1 s.h. ASSISTANT PROFESSOR ARGES AND MR. PETERSON

128. HYDRAULICS.—Elementary principles of hydromechanics. Application of hydrostatics to engineering problems and application of the principles of energy, continuity, and momentum to problems of flow. The effects of gravity and viscosity on fluid motion. Dimensional analysis and dynamic similarity; hydraulic measuring devices; steady flow in closed conduits and in open channels. Prerequisite: GE 58 or ME 52. 3 s.h. ASSOCIATE PROFESSOR WILLIAMS

Department of Civil Engineering



JAMES WESLEY WILLIAMS, Acting Chairman
Associate Professor

AUBREY EDWIN PALMER
Associate Professor

KIRO PETE ARGES
Assistant Professor

WILLIAM HENRY GARDNER, JR.
Assistant Professor

HOWARD N. HAINES
Assistant Professor

RALPH ELTON LEWIS
Assistant Professor

PAUL CLINTON STOTTLEMYER
Assistant Professor

JAMES EMMET PETERSON
Instructor

ROBERT FRANCIS PIERRY
Instructor

KENNETH JOHN THARP
Instructor

WADE GILLIES BROWN
Lecturer

THE work of a civil engineer may be divided into four major fields: sanitation—dealing with water works, sewerage systems, and garbage disposal; hydraulics—dealing with flood control, river improvements, irrigation, drainage, and water power; transportation—dealing with railroads, highways, airports, waterways, park systems, traffic control, and city planning; structures—dealing with bridges, buildings, foundations, dams, tunnels, tanks, bins, and various industrial structures. The concern of a civil engineer is primarily with design and construction, although often his responsibility includes maintenance. His undergraduate education comprises scientific, technical, civic, and cultural subjects. In order that he may become qualified to assume responsible charge of engineering work, he must supplement this instruction with progressive study after he graduates and while he is securing his practical experience.

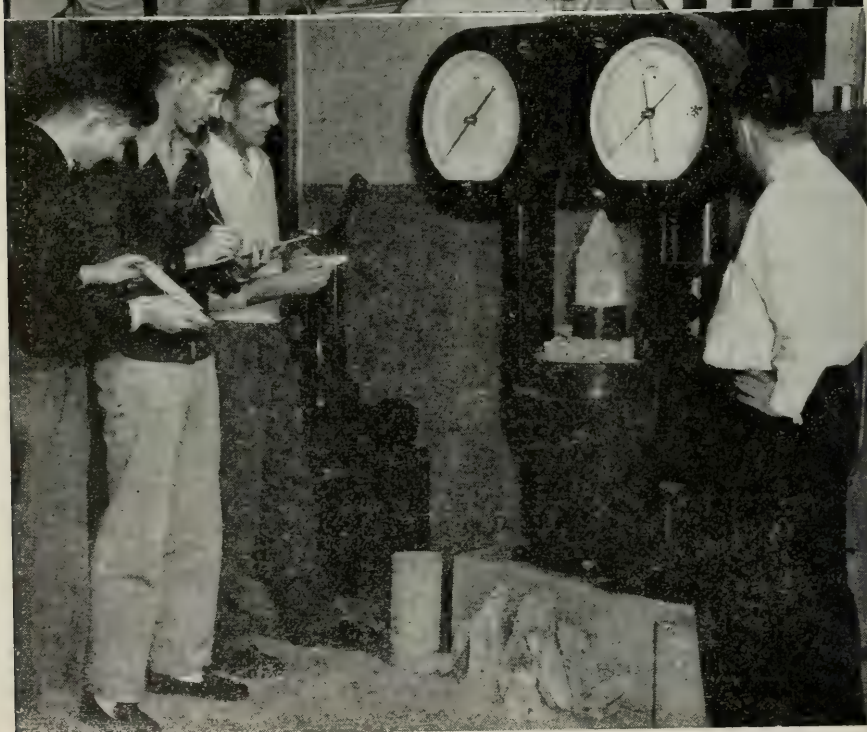
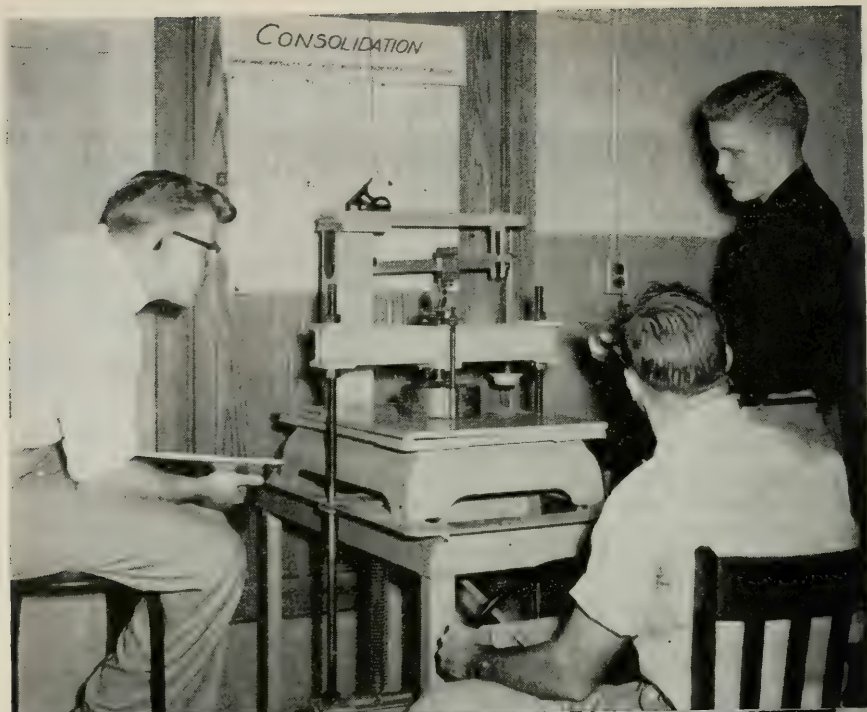
The various facilities of the department are described below.

HIGHWAY MATERIALS

Complete equipment is available for the preparation and routine testing of aggregates, cement, and bituminous materials. There is also a Hubbard stability machine for additional tests.

SANITARY ENGINEERING

In the sanitary laboratory there is complete equipment for performing the physical, chemical, bacteriological, and microscopic tests as outlined by the American public Health Association. Different types of water current meters are available for work in stream gauging.



SURVEYING

The department has an unusually modern and representative collection of transits, levels, plane tables, accessory equipment, as well as a precise level and theodolite.

CIVIL ENGINEERING DRAFTING ROOM

A special drawing room has been set aside for upperclassmen in civil engineering. The room is specially illuminated with fluorescent lights and has properly conditioned two-toned walls to relieve eye strain. Filing cabinets for storing each student's equipment, eight large-sized universal drafting machines, numerous smaller-sized ones, planimeters, curves, and other accessories are readily available.

STRESS LABORATORIES

For advanced instruction in stress analysis there are various polariscopes with facilities for taking and developing pictures, large-sized Begg's deformer, loading frames, and miscellaneous tools for preparing accurate models for testing. Electric calculating machines are to be found in an adjoining room so that the students may more readily compare calculated and experimental results.

CEMENT AND CONCRETE TESTING

For the testing of cement, fine and coarse aggregates, and concrete, two rooms and an adjoining closet are provided, the closet being equipped with temperature and moisture control. In addition to the small accessories there is an automatic shot-testing briquette machine, flow table, Ro-tap shaker, steam baths, unit weight measures, capping devices, special equipment for making the flexural test, as well as a 300,000-pound hydraulic compression machine.

SOIL TESTING

For the classification of soils there is standard equipment for finding the liquid limit, plastic limit, shrinkage limit, field moisture equivalent, centrifuge moisture equivalent, specific gravity, sieve analysis using Ro-tap shaker, and hydrometer analysis using a constant temperature bath. In making foundation studies, permeability is measured by constant and variable head permeameters and by horizontal capillarity; shearing values are determined by unconfined compression tests, four modern shear machines as well as by two triaxial shear machines; bearing values are found by the Proctor and California bearing tests; consolidation and settlement forecasts are made from data secured on three consolidation machines. Laboratory tables will accommodate twenty students. Drying racks, electric ovens, and other accessories of the latest types are to be found in this laboratory.

MATERIALS LABORATORY

This laboratory is equipped to give instruction in the basic principles of stress and strain and for the testing of structural members. Its facilities are adequate for both graduate and undergraduate instruction. Included in this laboratory are three universal testing machines with capacities from 5,000 to 150,000 pounds; various hardness testers; machines for torsion, fatigue, and impact; calibration apparatus; and a variety of modern strain gauges of direct acting mechanical and electric-resistance types.

*Program of Studies for the Degree of Bachelor
of Science in Civil Engineering*

Freshman Year

FIRST SEMESTER			SECOND SEMESTER		
		S.H.			S.H.
Math 5	College Algebra	3	Math 50	Analytic Geometry	3
Math 6	Trigonometry	3	Math 51	Calculus I	3
Chem 1	Chemistry	4	Chem 2	Chemistry	4
Engl 1	English Composition	3	Engl 2	English Composition	3
Hist E1	History	3	Hist E2	History	3
GE 1	Drawing	2	GE 2	Descriptive Geometry	2
	Physical Education	1		Physical Education	1
		19			19

Sophomore Year

FIRST SEMESTER			SECOND SEMESTER		
		S.H.			S.H.
Math 52	Calculus II	3	Math 53	Calculus III	3
Phys 51	Physics	5	Phys 52	Physics	5
Econ 51	Economics	3	Econ 52	Economics	3
GE 57	Statics	3	GE 107	Strength of Materials	3
CE 61	Surveying	4	CE 62	Surveying	4
	Physical Education	1		Physical Education	1
		19			19

Junior Year

FIRST SEMESTER			SECOND SEMESTER		
		S.H.			S.H.
Engl E93	Advanced Composition	3	Engl 151	Public Speaking	3
GE 58	Dynamics	3	GE 128	Hydraulics	3
CE 131	Structures	5	CE 132	Structures	5
CE 113	Route Surveying	3	CE 118	Materials	3
EE 123	Electric Circuits	4	EE 124	Electric Machinery	4
		18			18

Senior Year

FIRST SEMESTER

S.H.

CE 123	Water Supply	4
CE 135	Soils	3
CE 133	Reinforced Concrete	4
ME 103	Heat Power	3
ME 115	Mech. Eng. Laboratory	1
	†Approved Elective	3

18

SECOND SEMESTER

S.H.

CE 124	Water Purification	3
CE 116	Highways	3
CE 140	Indeterminate Structures	3
ME 104	Heat Power	3
ME 116	Mech. Eng. Laboratory	1
	†Approved Electives	5

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COURSE SUBSTITUTIONS FOR MILITARY SCIENCE STUDENTS

Air Force and Naval ROTC students (including candidates for Marine Corps commissions) who are majoring in civil engineering substitute military science courses for certain of the courses outlined in the basic civil engineering curriculum. These substitutions are indicated by the following table.

Year	Semester	Course Replaced	ROTC SUBSTITUTE					
			Air Force		Navy		Marine	
1	1	Hist. E1 (3 s.h.)	AS	1 (2 s.h.)	NS	101 (3 s.h.)	NS	101 (3 s.h.)
	2	Hist. E2 (3 s.h.)	AS	2 (2 s.h.)	NS	102 (3 s.h.)	NS	102 (3 s.h.)
2	1	Econ. 51 (3 s.h.)	AS	51 (2 s.h.)	NS	201 (3 s.h.)	NS	201 (3 s.h.)
	2	Econ. 52 (3 s.h.)	AS	52 (2 s.h.)	NS	202 (3 s.h.)	NS	202 (3 s.h.)
3	1	Engl. E93 (3 s.h.)	AS	101 (4 s.h.)	NS	301 (3 s.h.)	NS	301M (3 s.h.)
	2	Engl. 151 (3 s.h.)	AS	102 (4 s.h.)	NS	302 (3 s.h.)	NS	302M (3 s.h.)
4	1	Approved Elective (3 s.h.)	AS	201 (4 s.h.)	Approved Elective (3 s.h.)		NS	401M (3 s.h.)
	2	Approved Elective (3 s.h.)	AS	202 (4 s.h.)	NS	402 (3 s.h.)	NS	402M (3 s.h.)

Courses of Instruction

61. PLANE SURVEYING.—Use of instruments; transit, stadia and compass surveying; determination of meridian by observation on Polaris; differential and profile leveling; setting grade stakes; calculation of bearings, latitudes, departures and areas; methods of plotting; survey and plot of portions of campus by stadia, and transit and tape; care and adjustment of instruments. Prerequisites: GE 1 and Math 6. 4 s.h. ASSISTANT PROFESSOR ARGES AND MR. THARP

62. ADVANCED SURVEYING.—Simple triangulation; topographic surveying using stadia and plane table; laying out and division of land; public land system; calculations; grading plans and quantities; determination of azimuth by HO 211. Prerequisite: CE 61. 4 s.h. ASSISTANT PROFESSOR ARGES AND MR. THARP

108. *ADVANCED STRENGTH OF MATERIALS.—Applications of Mohr's circle, deflections, and energy of strain to advanced problems. Prerequisite: GE 107. 3 s.h. ASSOCIATE PROFESSOR WILLIAMS

S110. PLANE SURVEYING.—The equivalent of CE 61 given especially for students in forestry. See *Bulletin of Summer Session*. 4 s.h. MR. THARP

† It is recommended that 6 of the required 5 semester hours of electives in the senior year be taken in liberal arts.

* Offered only upon sufficient demand; enrollment limited.

113. ROUTE SURVEYING.—Thorough drill in the calculation and laying out of simple, compound, and easement curves; widening of curves; vertical curves; setting slope stakes; ordinary earthwork computations and mass diagrams. Prerequisite: CE 61. 3 s.h.

ASSOCIATE PROFESSOR WILLIAMS

116. HIGHWAY ENGINEERING.—Location, design, construction and maintenance of highways and city streets; soil stabilization; traffic studies; economics of planning and design. Prerequisites: CE 113, CE 135. 3 s.h.

ASSOCIATE PROFESSOR WILLIAMS

118. MATERIALS OF ENGINEERING.—Study and testing of materials commonly used in civil engineering. The content of course GE 109 and standard tests to determine significant physical properties of cementing materials and aggregates. The design and proportioning of concrete mixtures. Prerequisite: GE 107. 3 s.h.

ASSISTANT PROFESSORS ARGES AND GARDNER

121. *HYDROLOGY.—Fundamentals of meteorology; precipitation; evaporation. Ground water development. Stream flow and stream gaging. Hydrograph analysis. Flood control. Field trips to be arranged. Prerequisite: GE 128. 3 s.h.

ASSISTANT PROFESSOR STOTTLEMYER

123. WATER SUPPLY AND SEWERAGE.—Statistical analysis of rainfall and run-off records; population estimation; analysis of the yield of watersheds and storage requirement; design of water distribution systems; design of sanitary and storm sewerage systems. Prerequisite: GE 128. 4 s.h.

ASSISTANT PROFESSOR STOTTLEMYER

124. WATER PURIFICATION AND SEWAGE TREATMENT.—Chemical and bacteriological analysis of water and sewage effluents; design of water purification treatment systems; design of sewage treatment plans. Prerequisite: CE 123. 3 s.h.

MR. BROWN

128. INDUSTRIAL WATER SUPPLIES.—Water quality for industrial uses. Analytical techniques and interpretation of results. Boiler feed water requirements; softening, ion exchange; deaeration, priming; foaming; corrosion; embrittlement. Control of treatment processes. Prerequisite: Chemistry 1-2. 3 s.h.

Not offered 1955-56.

129-130. *ELEMENTARY STRUCTURES.—Stresses in beams and trusses for fixed and moving loads. Deflection of beams and trusses. Design of tension, compression, and flexural members; connections; and plate girders. Design of reinforced concrete beams, slabs, columns, footings, and retaining walls. (For students not majoring in structural engineering.) Prerequisite: GE 107. 6 s.h.

ASSOCIATE PROFESSOR PALMER

131. STRUCTURES.—ANALYSIS AND ELEMENTARY DESIGN.—Stresses in roofs, parallel and inclined chord bridges, including sub-divided panels, by algebraic and graphic methods under all conditions of loading; shear and moments in frames and bents; influence lines: Williot diagram. Structural drafting, details in steel and timber; methods of fabrication and erection. Prerequisite: GE 107. 5 s.h.

ASSOCIATE PROFESSOR PALMER AND ASSISTANT PROFESSOR STOTTLEMYER

132. STRUCTURES.—DESIGN.—Tension, compression, flexural members, end posts, eccentric connections, unsymmetrical bending; riveted and welded plate girders; trusses and office building frames; wind analysis. Design and detail drawings. Prerequisite: CE 131. 5 s.h.

ASSOCIATE PROFESSOR PALMER AND ASSISTANT PROFESSOR STOTTLEMYER

133. REINFORCED CONCRETE.—Theory and design of reinforced concrete beams, slabs, and columns including eccentric loads; footings; retaining walls. Prerequisite: GE 107. 4 s.h.

ASSOCIATE PROFESSOR PALMER

135. SOIL MECHANICS.—Identification and classification; flow nets; frost action; stability of foundations, cuts and embankments, and retaining walls; settlement. Laboratory includes identification, permeability, shear, unconfined compression, consolidation and compaction tests. Prerequisite: GE 107. 3 s.h.

ASSISTANT PROFESSOR GARDNER

* Offered only upon sufficient demand; enrollment limited.

137-138. *SEMINAR.—Students are required to make reports and to talk on current engineering literature or on such other topics as may be assigned. 2 s.h.

ASSOCIATE PROFESSOR WILLIAMS AND STAFF

140. INDETERMINATE STRUCTURES.—Application of least work, slope deflection, moment distribution, and column analogy. Analytic, graphic, and experimental methods are used. Prerequisites: CE 131, CE 133. 3 s.h.

ASSOCIATE PROFESSOR PALMER

142. *HYDRAULIC ENGINEERING.—Statical and dynamical principles of fluids applied to specific engineering problems. Effects of gravity, viscosity, compressibility, and surface tension on fluid motion in closed conduits and open channels; surface and form resistance; dimensional analysis and theory of models. Non-uniform flow in open channels. Hydraulic jump, backwater curves. Hydraulic problems of flood control, flood routing. Dam design. Prerequisite: GE 128 or ME 105. 3 s.h.

ASSOCIATE PROFESSOR WILLIAMS

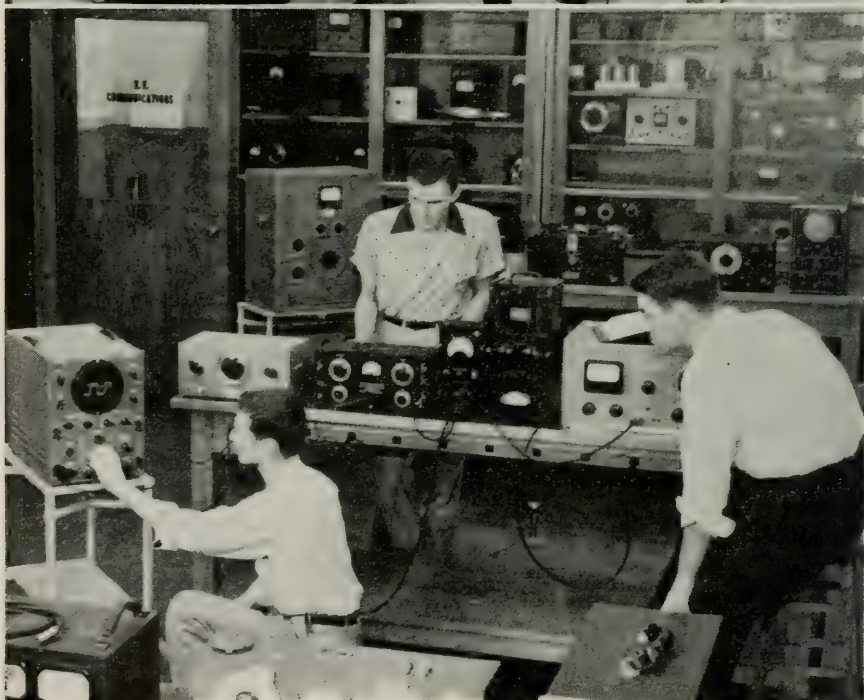
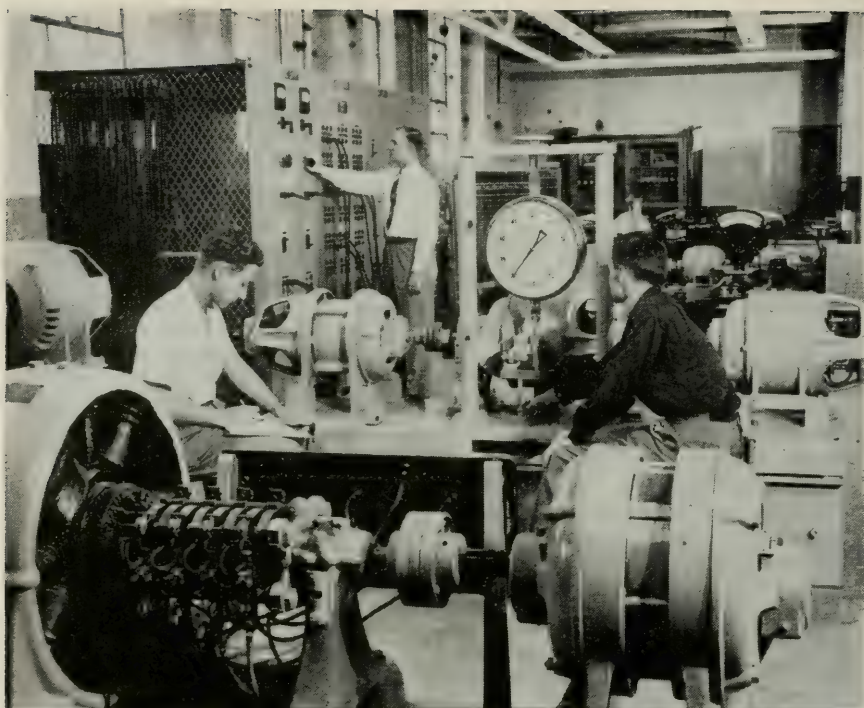
143-144. PROJECTS IN CIVIL ENGINEERING.—This course may be assigned by the Chairman of the Department to certain seniors who have shown an aptitude for research in one distinct field of civil engineering, in which case it may be substituted for certain general civil engineering courses. 2-6 s.h.

STAFF

146. CIVIL ENGINEERING PROBLEMS.—Professional aspects of civil engineering practice. Selected problems in analysis and design, considerations of engineering economy, contracts, specifications, and ethics. Seniors only. 2-3 s.h.

ASSOCIATE PROFESSOR PALMER

Offered only upon sufficient demand; enrollment limited.



Department of Electrical Engineering



WALTER JAMES SEELEY, Chairman
James B. Duke Professor

CHARLES ROWE VAIL, Executive Officer
Associate Professor

FRANK NICHOLAS EGERTON
Associate Professor

JACOB FRANK KOENIG
Assistant Professor

EDWARD KREADY KRAYBILL
Associate Professor

HARRY ASHTON OWEN, JR.
Assistant Professor

OTTO MEIER, JR.
Associate Professor

GILMORE BOWERS
Instructor

ROBERT LEON THURSTONE
Instructor

THE profession of electrical engineering enters into every form of industry and public service where power is utilized, intelligence is transmitted, and precise control is exercised over physical, chemical, or mechanical operations. Within its province come the generation, transmission, distribution, and utilization of electric power; communications, embracing acoustics, telegraphy, telephony, radio, television, and radar; illumination; electrical transportation; and industrial processes and their control. In any one of these and other varied fields of application, the electrical engineer may engage in work which ranges from basic research, through development, design, manufacturing, sales, operation, and maintenance, to administration, consulting and teaching.

To prepare students to meet these broad professional demands, the curriculum in electrical engineering has been carefully designed to provide a solid foundation of mathematics and basic science, a comprehensive training in general engineering fundamentals, an integrated study of the principles of electrical engineering, and an appropriate rounding in the liberal arts.

Classroom theory is translated into practice in the excellently equipped laboratories which are described in the following paragraphs.

THE FIELDS AND CIRCUITS LABORATORY

This laboratory is equipped for the experimental study of electric and magnetic fields and circuits. Electric and fluid analogue mappers are used in plotting the configurations of two-dimensional electric and

magnetic fields. Studies are made of electric circuit parameters considered both singly and in combination, and magnetic circuit principles are tested. Nonsinusoidal waves are both synthesized and analyzed, and oscillographic studies are made of both the steady-state and transient behavior of direct-current circuits and single-phase and poly-phase alternating-current circuits.

THE ELECTRICAL MEASUREMENTS LABORATORY

Facilities are provided in this laboratory for studying the design and operation of electric instruments and the principles and techniques of measuring and recording electrical quantities throughout the entire frequency spectrum, ranging from direct current through power, audio, and radio frequencies.

THE STANDARDIZING LABORATORY

This laboratory is provided with high-precision instruments that are used as standards against which to check and calibrate instruments used in the other laboratories. Standards of potential difference, current, power, energy, time, and frequency are included.

THE ELECTRONICS LABORATORY

The equipment of this laboratory is used in studying the physical behavior of high-vacuum and gas-filled electronic tubes and their associated circuits. Applications are made to power-supply units, vacuum-tube voltmeters, oscillators, amplifiers, sweep-circuit generators, and cathode-ray oscillographs.

THE COMMUNICATIONS LABORATORY

Equipment for making measurements and performing experiments in the audio- and radio-frequency ranges is provided in this laboratory. Typical of the experiments performed by students in this laboratory are: harmonic generation and wave analysis, study of circuit elements at audio and radio frequencies, square-wave testing, investigation of transmission characteristics of an artificial telephone line, impedance matching at audio and radio frequencies, study of modulation and detection systems, generation and amplification of audio- and radio-frequency signals, frequency and field intensity measurements, and determination of antenna radiation patterns.

THE ULTRA-HIGH FREQUENCY LABORATORY

This laboratory is equipped to study the performance of circuits and systems in the frequency range from 100 to 5000 megacycles. Resonant lines, stub-matching sections, wave guides, resonant cavities, klystrons, magnetrons, horn radiators, and parabolic reflectors are typical of the devices studied.

THE ANECHOIC LABORATORY

As the name implies, this laboratory is housed in a non-echoing soundproof room in which experiments and measurements can be performed on microphones, loudspeakers, and associated electro-acoustical devices. Sound level meters are used for the measurement of the reverberation characteristics of rooms and of the sound-absorbing qualities of various materials. A broadcast-type tape recorder is used for recording and playing special testing signals as well as for more common uses.

THE ELECTRIC MACHINERY LABORATORY

The electric machinery laboratory contains a wide variety of electric power equipment especially selected and arranged for effective instruction and for carrying out special student projects. The work in this laboratory includes standard tests of conventional machine characteristics as well as advanced studies of technical principles. Chief among the rotating machines especially developed for use in educational laboratories are both direct-current and alternating-current motor-generator sets with associated dynamometer equipment. A wide variety of transformers is employed in studying not only the characteristics of transformers but their use in both single-phase and poly-phase systems. All types of loads are applied in studying the characteristics of these machines and these systems.

THE INDUSTRIAL CONTROL LABORATORY

A variety of typical servomechanisms, regulators, and electromagnetic and electronic industrial control apparatus and associated test equipment permits instruction and experimentation in this field.

THE HIGH VOLTAGE LABORATORY

This laboratory is used for instruction and research with 60-cycle voltages ranging up to 100,000 volts and impulse voltages up to 500,000 volts. A high speed cathode-ray oscillograph permits the study of phenomena occurring within a tenth of a microsecond.

THE ILLUMINATION LABORATORY

The facilities of this laboratory are used for conducting development tests on all types of light sources, for the examination of certain phases of current lighting practice, and for research in illumination.

PHOTOGRAPHIC FACILITIES

A department photographic dark room is maintained for use in processing photographic records obtained in the various laboratories. A variety of cameras, including a high-speed 16-mm motion picture camera, is available for research use.

AMATEUR RADIO STATION W4AHY

The facilities of this station, under the supervision of the Engineers' Radio Association, are used by interested students who hold licenses to gain practical experience in short wave radio and to communicate with other amateur radio operators the world over. The call letters W4AHY have been assigned to the station by the Federal Communications Commission, which has granted a license to operate on the popular amateur bands using both code and voice transmission.

*Program of Studies for the Degree of Bachelor
of Science in Electrical Engineering*

Freshman Year

FIRST SEMESTER			SECOND SEMESTER		
		S.H.			S.H.
Math 5	College Algebra	3	Math 50	Analytic Geometry	3
Math 6	Trigonometry	3	Math 51	Calculus I	3
Chem 1	Chemistry	4	Chem 2	Chemistry	4
Engl 1	English Composition	3	Engl 2	English Composition	3
Hist- E1	History	3	Hist E2	History	3
GE 1	Drawing	2	GE 2	Descriptive Geometry	2
	Physical Education	1		Physical Education	1
		19			19

Sophomore Year

FIRST SEMESTER			SECOND SEMESTER		
		S.H.			S.H.
Math 52	Calculus II	3	Math 53	Calculus III	3
Phys 51	Physics	5	Phys 52	Physics	5
Econ 51	Economics	3	Econ 52	Economics	3
GE 57	Statics	3	ME 52	Kinetics—Mechanism	4
EE 51	Survey of Electrical Engineering	1	EE 52	Electric and Magnetic Fields	3
Engl E93	Advanced Composition ...	3		Physical Education	1
	Physical Education	1			19
		19			

Junior Year

FIRST SEMESTER			SECOND SEMESTER		
		S.H.			S.H.
EE 101	Circuits	3	EE 102	Circuits	3
EE 107	Circuits Laboratory	1	EE 108	Circuits Laboratory	1
EE 105	Measurements	4	EE 106	Electronics	4
Math 131	Differential Equations ...	3	EE 148	D-C Machinery	3
ME 103	Heat Power	3	ME 104	Heat Power	3
ME 115	Mech. Eng. Laboratory ...	1	ME 116	Mech. Eng. Laboratory ...	1
GE 128	Hydraulics	3	Engl 151	Public Speaking	3
		18			18

Senior Year

FIRST SEMESTER

SECOND SEMESTER

			S.H.				S.H.
EE	257	A-C Machinery	3	EE	258	A-C Machinery	3
EE	163	Machinery Laboratory	1	EE	164	Machinery Laboratory	1
EE	261	Communications	4	EE	262	Communications	4
EE	165	Seminar	1	EE	166	Seminar	1
EE	159	Transmission	3	GE	107	Strength of Materials	3
		*Approved Electives	6	GE	109	Materials Laboratory	1
			—			*Approved Electives	5
			18				18

COURSE SUBSTITUTIONS FOR MILITARY SCIENCE STUDENTS

Air Force and Naval ROTC students (including candidates for Marine Corps commissions) who are majoring in electrical engineering substitute military science courses for certain of the courses outlined in the basic electrical engineering curriculum. These substitutions are indicated by the following table.

Year	Semester	Course Replaced		ROTC SUBSTITUTE					
				Air Force		Navy		Marine	
1	1	Hist.	E1 (3 s.h.)	AS	1 (2 s.h.)	NS	101 (3 s.h.)	NS	101 (3 s.h.)
	2	Hist.	E2 (3 s.h.)	AS	2 (2 s.h.)	NS	102 (3 s.h.)	NS	102 (3 s.h.)
2	1	Econ.	51 (3 s.h.)	AS	51 (2 s.h.)	NS	201 (3 s.h.)	NS	201 (3 s.h.)
	2	Econ.	52 (3 s.h.)	AS	52 (2 s.h.)	NS	202 (3 s.h.)	NS	202 (3 s.h.)
3	1	GE	128 (3 s.h.)	AS	101 (4 s.h.)	NS	301 (3 s.h.)	NS	301M (3 s.h.)
	2	Engl.	151 (3 s.h.)	AS	102 (4 s.h.)	NS	302 (3 s.h.)	NS	302M (3 s.h.)
4	1	Approved Electives	(6 s.h.)	{AS	201 (4 s.h.)	Approved Electives	(6 s.h.)	{NS	401M (3 s.h.)
				{GE	128 (3 s.h.)			{Approved Elective	(3 s.h.)
	2	Approved Elective	(3 s.h.)	AS	202 (4 s.h.)	NS	402 (3 s.h.)	NS	402M (3 s.h.)

Courses of Instruction

51. SURVEY OF ELECTRICAL ENGINEERING.—A course designed to give the student a general survey of the engineering profession, to define the scope of activities of the electrical engineer, and to provide an introduction to engineering problems. One two-hour computation. 1 s.h. ASSOCIATE PROFESSOR KRAYBILL

52. ELECTRIC AND MAGNETIC FIELDS.—An introductory course covering a mathematical and physical analysis of energy relations in electrostatic and magnetostatic fields; resistance, capacitance and inductance of systems of conductors; systems of electric and magnetic units. Two recitations and one two-hour computation. Prerequisites: EE 51, Mathematics 52. Physics 52, Mathematics 53 concurrently. 3 s.h. ASSOCIATE PROFESSOR VAIL AND MR. BOWERS

* It is recommended that 6 of the required 11 semester hours of electives in the senior year be taken in liberal arts.

101-102. CIRCUITS IN ELECTRICAL ENGINEERING.—A two-semester course covering methods of electric and magnetic circuit analysis applicable in all branches of electrical engineering; alternating and direct currents; the algebra of vectors and complex quantities; networks; coupled circuits; polyphase circuits; nonsinusoidal waves; transients; complex frequency. Prerequisite: EE 52. EE 107-108 and Mathematics 131 concurrently. 6 s.h.

ASSOCIATE PROFESSOR VAIL

105. ELECTRICAL MEASUREMENTS.—A course covering direct-current and low-frequency alternating-current measurements; the theory, calibration, and use of laboratory standards and of apparatus for the measurement of potential, current, power and energy; and audio-frequency determination of impedance. Three class sessions and one three-hour laboratory. Prerequisite: EE 52. Mathematics 131 and EE 101 concurrently. 4 s.h.

ASSISTANT PROFESSOR OWEN AND MR. THURSTONE

106. ELECTRON TUBES AND CIRCUITS.—A course covering electronic emission, static and dynamic tube characteristics, rectification, glow-discharge tubes, amplifiers, oscillators, and other typical circuits. Three class sessions and one three-hour laboratory. Prerequisites: EE 101, EE 105, EE 107. EE 102 and EE 108 concurrently. 4 s.h.

ASSISTANT PROFESSOR OWEN AND MR. THURSTONE

107-108. CIRCUITS LABORATORY.—A two-semester course designed to provide instruction in electrical laboratory techniques and in the preparation of engineering reports, and to provide experimental verification of the theory of course EE 101-102, with which it should be taken concurrently. One three-hour laboratory. 2 s.h.

ASSOCIATE PROFESSOR VAIL AND MR. BOWERS

123. PRINCIPLES OF ELECTRIC CIRCUITS.—A course designed especially for students in other branches of engineering, covering the fundamental electrical units and both alternating and direct-current circuits. Three class sessions and one three-hour laboratory. Prerequisites: Mathematics 52 and Physics 52. 4 s.h.

ASSOCIATE PROFESSORS KRAYBILL AND EGERTON;

ASSISTANT PROFESSOR KOENIG; MR. THURSTONE

124. PRINCIPLES OF ELECTRIC MACHINERY.—A course designed especially for students in other branches of engineering, covering the application of the principles of course EE 123 to alternating and direct-current machinery and associated apparatus. Three class sessions and one three-hour laboratory. Prerequisite: EE 123. 4 s.h.

ASSOCIATE PROFESSORS KRAYBILL AND EGERTON;

ASSISTANT PROFESSOR KOENIG; MR. THURSTONE

148. DIRECT-CURRENT MACHINERY.—A study of the principles which underlie the design and operation of all types of direct-current generators, motors, and associated apparatus. Prerequisites: EE 101 and EE 107. EE 102 and EE 108 concurrently. 3 s.h.

ASSOCIATE PROFESSOR MEIER AND MR. BOWERS

158. *ELECTRIC-POWER SYSTEMS.—A course providing a brief survey of the electric-power industry followed by a consideration of the economic and engineering features of power plant location and design, and by a study of the apparatus utilized in the generation, transmission and distribution of electric power. Prerequisites: EE 148, ME 104, and permission of instructor. EE 257-258 concurrently. Elective for electrical majors. 3 s.h.

PROFESSOR SEELEY

159. TRANSMISSION.—A development of the theory underlying the transmission of electric energy over conductors at both power and communication frequencies. Two class sessions and one two-hour computation. Prerequisites: EE 101-102, EE 105, EE 106, Mathematics 131. 3 s.h.

PROFESSOR SEELEY

161. *HIGH-VOLTAGE PHENOMENA.—An introductory study of high-voltage phenomena and their engineering applications; behavior of gaps and insulators upon application of power-frequency and impulse voltages; corona; properties of insulating materials; high-voltage measurements; elements of high-voltage design. Two class sessions and one three-hour laboratory. Prerequisites: EE 101-102, EE 105, EE 106, and permission of instructor. Elective for electrical majors. 3 s.h.

ASSOCIATE PROFESSOR VAIL

* Offered only upon sufficient demand; enrollment limited.

163-164. **ELECTRIC MACHINERY LABORATORY.**—A study of the technique of testing electric machines and a thorough analysis of their performance. Concurrent with EE 257-258. One three-hour session, for two semesters. 2 s.h.

ASSOCIATE PROFESSOR MEIER AND MR. BOWERS

165-166. **ELECTRICAL ENGINEERING SEMINAR.**—A course in which seniors are required to present oral reports and dissertations on material appearing in current engineering literature. Juniors may participate, but without credit. 2 s.h.

STAFF

171. ***FUNDAMENTALS OF ILLUMINATION.**—A course designed to familiarize the student with some of the factors that influence seeing; to provide a working knowledge of lighting language, sources, and measuring techniques; and to acquaint the student with the basic factors involved in recommended lighting practice. Two class sessions and one two-hour computation. Prerequisites: EE 101-102 or EE 123, and permission of instructor. Elective. 3 s.h.

ASSOCIATE PROFESSOR KRAYBILL

173-174. ***PROJECTS IN ELECTRICAL ENGINEERING.**—A course which may be undertaken only by seniors who show special aptitude, or who may have had previous experience directly related to the proposed project. The consent of the Chairman of the Department must be obtained before registering. Elective for electrical majors. 3-6 s.h.

STAFF

180. ***RADIO-FREQUENCY TRANSMISSION AND PROPAGATION.**—Theory and application of transmission and propagation at high and ultra-high frequencies; impedance-matching elements; coupling devices; cavity resonators; wave guides and antennas. Two class sessions and one three-hour laboratory. Prerequisites: EE 159, EE 261, and permission of instructor. EE 262 concurrently. Elective for electrical majors. 3 s.h.

ASSISTANT PROFESSOR OWEN

197. ***INDUSTRIAL APPLICATIONS OF ELECTRICAL EQUIPMENT.**—A course of lectures, demonstrations, and recitations designed especially for students in other branches of engineering, dealing with the basic principles of utilization of a wide variety of electrical equipment in industrial practice. Emphasis is on industrial control, motor and generator applications, and electronic devices and applications. Prerequisite: EE 124 and permission of instructor. Elective for nonelectricals. 3 s.h.

ASSOCIATE PROFESSOR MEIER

198. ***INDUSTRIAL CONTROL.**—This course, open only to students majoring in electrical engineering, consists of a study of the electromagnetic and electronic control of electric motors in industrial applications. Prerequisites: EE 101-102, EE 106, EE 148, EE 257, and permission of the instructor. EE 258 concurrently. Elective for electrical majors. 3 s.h.

ASSOCIATE PROFESSOR MEIER

199. ***FEEDBACK CONTROL SYSTEMS.**—An introductory study of the theory, analysis, design and operation of servomechanisms, regulators, program controllers, and other feedback controls. Included are electrical, mechanical, hydraulic, aerodynamic, pneumatic, and thermal systems. Steady-state and transient solutions, stability criteria and diagrams, and linear and nonlinear systems are considered. Two class sessions and one three-hour laboratory. Prerequisites: EE 101-102, EE 106, EE 148, and permission of instructor. EE 163 and EE 257 concurrently. Elective for electrical majors. 3 s.h.

ASSISTANT PROFESSOR KOENIG

257-258. **ALTERNATING-CURRENT MACHINERY.**—A two-semester course dealing with the theory underlying the design, construction, and operation of synchronous generators, transformers, polyphase induction motors, synchronous motors, single-phase motors of all types, and converters and rectifiers. Prerequisites: EE 101-102 and EE 148. 6 s.h.

ASSOCIATE PROFESSOR MEIER AND MR. BOWERS

* Offered only upon sufficient demand; enrollment limited.

261. COMMUNICATION ENGINEERING.—An advanced course dealing with the principles underlying radio communication with special emphasis on the development of methods and procedures for the mathematical analysis of electron tube circuits. Included are vacuum tube amplifiers, oscillators, special electron tube circuits, and introduction to pole and zero studies of response and impedance. Three class sessions and one three-hour laboratory. Prerequisites: EE 101-102, EE 105, EE 106, and Mathematics 131. 4 s.h. ASSISTANT PROFESSOR OWEN

262. COMMUNICATION ENGINEERING.—The sequel to course EE 261. Included are rectifiers and filters, amplitude and frequency modulation, demodulation, microwave tubes, propagation of radio waves, antennas. Three class sessions and one three-hour laboratory. Prerequisite: EE 261. 4 s.h. ASSISTANT PROFESSOR OWEN

263-264. *OPERATIONAL CIRCUIT ANALYSIS.—An advanced course covering the mathematical analysis of certain circuits used in electrical engineering, with an introduction to the application of operational calculus to circuit analysis. Prerequisites: EE 101-102, Mathematics 131, and permission of instructor. Elective for electrical majors. 6 s.h. PROFESSOR SEELEY

* Offered only upon sufficient demand; enrollment limited.

Department of Mechanical Engineering



VAN LESLIE KENYON, JR., Acting Chairman
Associate Professor

FREDERICK JEROME REED
Associate Professor

ERNEST ELSEVIER
Assistant Professor

CHARLES DARBY FULTON, JR.
Assistant Professor

RAY WALTER HOLLAND
Assistant Professor

LESLIE CLIFFORD WILBUR
Assistant Professor

IAN OLIPHANT MacCONOCHIE
Instructor

DAVID RABIN
Instructor

CHESTER FAY HWANG
Instructor, Part Time

WALTER GOLD SMITH
Instructor, Part Time

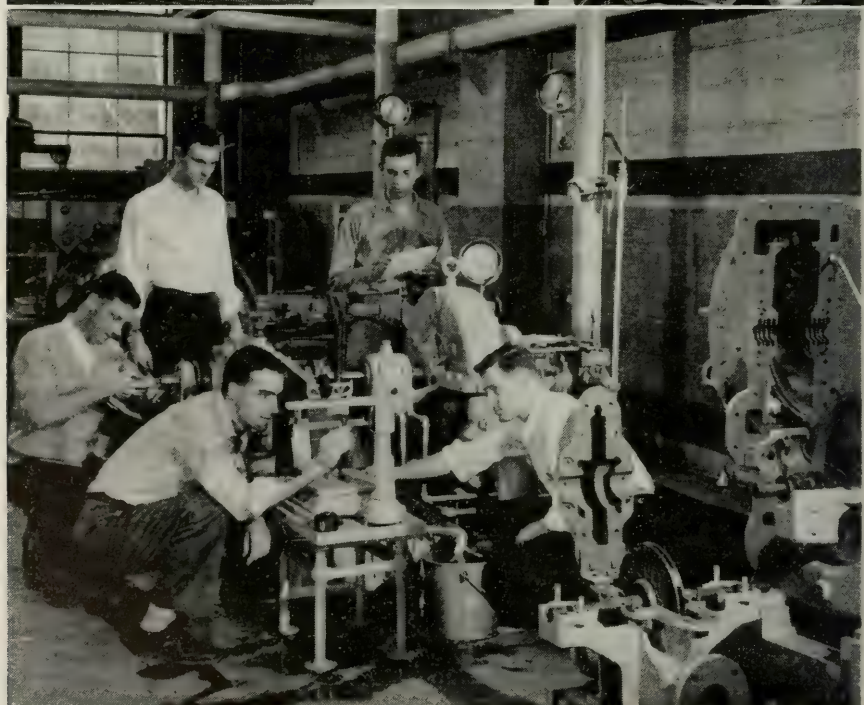
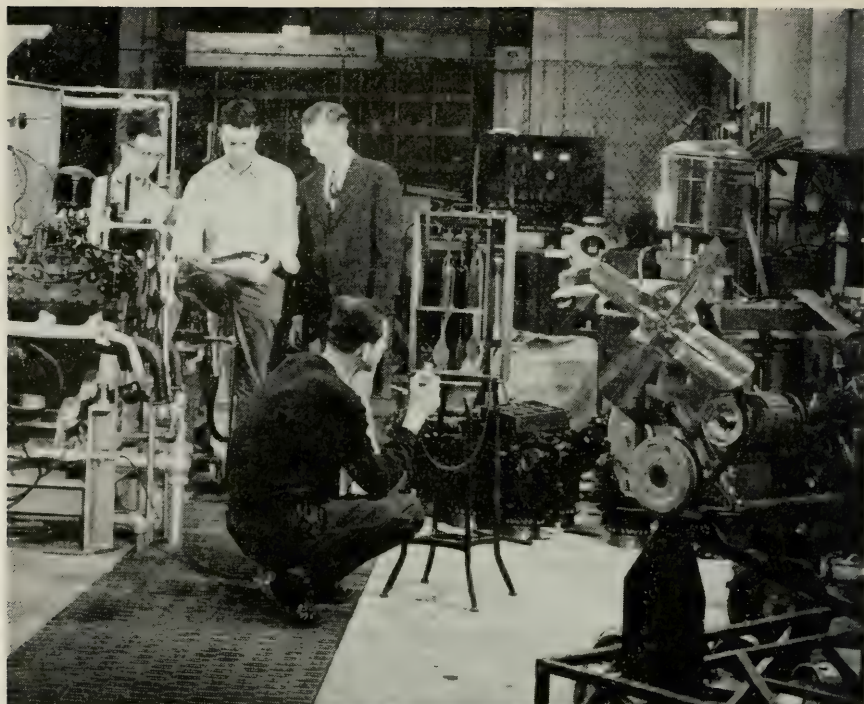
ROBERT WORTH TAYLOR
Instructor, Part Time

MECHANICAL ENGINEERING is a profession devoted to the application of machines, heat, and power to the service of man. The technical work of the profession is based upon physics, chemistry, and mathematics, and especially upon mechanics and thermodynamics. Mechanical engineering includes such fields as heating, air conditioning, refrigeration, power production, machine design, and manufacturing, and is concerned with the creation and practical use of such equipment as automobiles, railways, engines, compressors, machine tools, and mechanisms. The activities of mechanical engineering graduates range from research and design to production, testing, application, management, sales, and maintenance.

The mechanical engineering course at Duke University is designed to give the student a foundation in the principles of the profession so that he will be prepared to apply himself readily to any of its special fields. Through the combination of his curricular and extra-curricular experiences, the student is given the fullest possible opportunity to develop his scientific knowledge, mental discipline, practical judgment, ingenuity, ethics, social balance, and leadership ability.

POWER PLANT LABORATORY

This laboratory occupies a two-story wing off the main mechanical engineering laboratory. An automatic oil-fired Combustion Engineering boiler, designed specifically for the needs of this laboratory, produces 3200 pounds of steam per hour at a pressure of 250 pounds and a temperature of 556°F. This steam is utilized to operate a complete



experimental power plant consisting of two 25-kw Westinghouse turbo-generator units, a condenser with air ejector and after-condenser, a feedwater heater, pumps and accessories, and a control and instrument panel. The electric energy is absorbed by resistors or by a synchronous motor coupled to a water brake. Interconnection of piping and controls, together with complete instrumentation, enable the simulation and study of many types of power plants.

MECHANICAL LABORATORY

STEAM EQUIPMENT: Adjacent to the boiler room are a horizontal Troy engine with shaft cut-off governor, a vertical Troy engine with throttle governor, a Sturtevant steam turbine, and a condenser with air ejector, aftercondenser, and accessories. Additional steam equipment includes calorimeters, an orifice apparatus, and an injector.

INTERNAL COMBUSTION ENGINES: A section of the west side of the laboratory contains Nash and Ford automobile engines and a 10-hp Stover Diesel engine with generator, all instrumented for determination of their characteristics and performance. Indicator diagrams are obtained with a mechanical indicator or with a Li pickup, amplifier, volume signal generator, and oscilloscope. The laboratory also contains a 7.5-hp Diesel engine with cradle dynamometer, a 6-cylinder Diesel engine-generator unit, a 4-cylinder gasoline engine-generator unit, and cutaway Oldsmobile, Cadillac, and Wright Whirlwind engines.

AIR COMPRESSORS: A thorough study of air compression is afforded by the use of a Worthington 8 by 9-inch water-cooled single-stage compressor driven by a 25-hp a.c. motor and a Davey 2-stage V-type air-cooled compressor driven by a 25-hp d.c. motor.

FLUID APPARATUS: A section of the east side of the laboratory contains a Cameron centrifugal pump driven by a variable-speed motor, together with a series of weirs and orifices. Another centrifugal pump delivers water to a turbine having a transparent casing, while nearby is an apparatus for the measurement of water friction in pipes and fittings. On the upper level are a centrifugal fan fitted with orifices and a pitot-static tube, and a second fan discharging through pipes and fittings for the measurement of duct friction. A small 45-mph wind tunnel is used for the measurement of lift, drag, and pressure distribution on models.

LUBRICANT, FUEL, AND FEEDWATER TESTING: In the south end of the main laboratory are three rooms completely equipped for measurement of the properties of solid, liquid, and gaseous fuels and of lubricating oils, and for chemical analysis of feedwater.

HEATING, AIR CONDITIONING, AND REFRIGERATION:

A domestic hand-fired steam boiler and a domestic oil-burning hot-water furnace are provided, together with a steam-heated radiator and convector. An operating refrigerating unit having transparent parts distributed on a panel is used for qualitative study. A 5-ton refrigerating machine employing York Freon-12 compressors is under construction.

INSTRUMENT ROOM: This room provides a full supply of instruments including indicators, tachometers, planimeters, stop-watches, velometers, thermometers, thermocouples, potentiometers, pressure gages, deadweight testers, scales, and other devices.

METALLOGRAPHY AND STRESS ANALYSIS LABORATORY

This laboratory contains a 1000-magnification Leitz metallurgical microscope with photographic equipment, a darkroom, polishing equipment, a specimen mounting press, and a small automatically controlled furnace, permitting a study of the grain and crystal structure of metals and of the effects of heat treatments.

A large polariscope affords measurement and visual observation of stresses in plastic models. Electronic equipment comprising wire strain gages, an amplifier, and an oscilloscope permit the direct measurement of strains as small as one microinch.

SHOPS

Adequate facilities are provided for the maintenance of the laboratories, for student and faculty projects, and for special instruction.

METAL SHOP: This shop, located on the upper level of the main laboratory, contains three lathes with accessories, a drill press, an arbor press, a precision grinder, a tool grinder, a milling machine, a shaper, a variety of small tools and accessories, and adequate stocks of materials.

WOOD SHOP: This shop, located on the top floor of the building, contains a lathe, a drill press, a planer, a band saw, a jig saw, two circular saws, a shaper, and a variety of accessories and small tools.

WELDING AND BRAZING EQUIPMENT: A 200-ampere arc welding machine and complete oxy-acetylene welding and cutting equipment are provided, together with materials and accessories.

Program of Studies for the Degree of Bachelor of Science in Mechanical Engineering

Freshman Year

FIRST SEMESTER			SECOND SEMESTER		
		S.H.			S.H.
Math 5	College Algebra	3	Math 50	Analytic Geometry	3
Math 6	Trigonometry	3	Math 51	Calculus I	3
Chem 1	Chemistry	4	Chem 2	Chemistry	4
Engl 1	English Composition	3	Engl 2	English Composition	3
Hist E1	History	3	Hist E2	History	3
GE 1	Drawing	2	GE 2	Descriptive Geometry	2
	Physical Education	1		Physical Education	1
		19			19

Sophomore Year

FIRST SEMESTER			SECOND SEMESTER		
		S.H.			S.H.
Math 52	Calculus II	3	Math 53	Calculus III	3
Phys 51	Physics	5	Phys 52	Physics	5
Econ 51	Economics	3	Econ 52	Economics	3
GE 57	Statics	3	ME 52	Kinetics-Mechanism	4
ME 53	Materials	3	Engl E93	Advanced Composition	3
ME 57	Processes	2		Physical Education	1
	Physical Education	1			19
		20			

Junior Year

FIRST SEMESTER			SECOND SEMESTER		
		S.H.			S.H.
ME 101	Thermodynamics	3	ME 102	Thermodynamics	3
ME 113	Mech. Eng. Laboratory	2	ME 114	Mech. Eng. Laboratory	1
ME 105	Fluid Mechanics	3	ME 108	Aeronautics	3
GE 107	Strength of Materials	3	ME 106	Heat Transfer	3
GE 109	Materials Laboratory	1	ME 150	Machine Design	3
EE 123	Electric Circuits	4	EE 124	Electric Machinery	4
Engl 151	Public Speaking	3			17
		19			

Senior Year

FIRST SEMESTER			SECOND SEMESTER		
		S.H.			S.H.
ME 151	Machine Design	4	ME 158	Industrial Engineering	3
ME 155	Internal Combustion Engines	3	ME 162	Power Plants	3
ME 153	Heating-Air Conditioning	3	ME 154	Refrigeration	3
ME 159	Mech. Eng. Laboratory	2	ME 160	Mech. Eng. Laboratory	2
	*Approved Electives	6		*Approved Electives	6
		18			17

* It is recommended that 6 of the required 12 semester hours of electives in the senior year be taken in liberal arts.

COURSE SUBSTITUTIONS FOR MILITARY SCIENCE STUDENTS

Air Force and Naval ROTC students (including candidates for Marine Corps commissions) who are majoring in mechanical engineering substitute military science courses for certain of the courses outlined in the basic mechanical engineering curriculum. These substitutions are indicated by the following table:

Year	Semester	Course Replaced	ROTC SUBSTITUTE					
			Air Force		Navy		Marine	
1	1	Hist. E1 (3 s.h.)	AS	1 (2 sh.)	NS	101 (3 s.h.)	NS	101 (3 s.h.)
	2	Hist. E2 (3 s.h.)	AS	2 (2 s.h.)	NS	102 (3 s.h.)	NS	102 (3 s.h.)
2	1	Econ. 51 (3 s.h.)	AS	51 (2 s.h.)	NS	201 (3 s.h.)	NS	201 (3 s.h.)
	2	Econ. 52 (3 s.h.)	AS	52 (2 s.h.)	NS	202 (3 s.h.)	NS	202 (3 s.h.)
3	1	Engl. 151 (3 s.h.)	AS	101 (4 s.h.)	NS	301 (3 s.h.)	NS	301M (3 s.h.)
	2	ME 108 (3 s.h.)	AS	102 (4 s.h.)	NS	302 (3 s.h.)	NS	302M (3 s.h.)
4	1	Approved Electives (6 s.h.)	{ AS 201 (4 s.h.) Engl. 151 (3 s.h.)	{ Econ. 51 (3 s.h.) Approved Elective (3 s.h.)	{ NS 401M (3 s.h.) Approved Elective (3 s.h.)	{ NS 401M (3 s.h.) Approved Elective (3 s.h.)	{ NS 401M (3 s.h.) Approved Elective (3 s.h.)	{ NS 401M (3 s.h.) Approved Elective (3 s.h.)
	2	Approved Electives (6 s.h.)	{ AS 202 (4 s.h.) ME 108 (3 s.h.)	{ Econ. 52 (3 s.h.) NS 402 (3 s.h.)	{ NS 402M (3 s.h.) Approved Elective (3 s.h.)	{ NS 402M (3 s.h.) Approved Elective (3 s.h.)	{ NS 402M (3 s.h.) Approved Elective (3 s.h.)	{ NS 402M (3 s.h.) Approved Elective (3 s.h.)

Courses of Instruction

52. KINETICS-MECHANISM.—Motions of particles. Applications of Newton's Laws of Motion to motions of rigid bodies. Work, energy, impulse, and momentum. Linkages, cams, gears, trains of mechanism. Three recitations, three laboratory hours. Prerequisites: GE 2, GE 57, Mathematics 52. 4 s.h.

ASSISTANT PROFESSOR HOLLAND, MESSRS. RABIN AND MACCONOCHIE

53. MATERIALS.—Mechanical properties of materials; elementary metallurgy; heat treatment, properties and selection of iron, steel, copper, brass, aluminum, plastics, and other common materials. Lectures and recitations supplemented with films and demonstrations. Prerequisite: Chemistry 2. 3 s.h.

MESSRS. RABIN, MACCONOCHIE AND SMITH

57. PROCESSES.—Lectures and recitations covering casting, forging, welding, bending, rolling, drawing, machining, and other common processes. Interchangeable manufacture, metal fits, production methods. Supplemented with films and demonstrations. 2 s.h.

ASSISTANT PROFESSORS ELSEVIER AND HOLLAND, MR. MACCONOCHIE

101-102. ENGINEERING THERMODYNAMICS.—A basic study of the laws of thermodynamics, their corollaries, and their use in engineering analysis and design. Properties and processes of gases, vapors, vapor-liquid systems, and mixtures. Cycles. Combustion. Three recitations. Prerequisites: Chemistry 2, Physics 52, Mathematics 52. 6 s.h.

ASSISTANT PROFESSOR WILBUR

103-104. HEAT POWER ENGINEERING.—A terminal course in thermodynamics and its engineering applications, for civil and electrical engineering students only. Heat transfer: engines, compressors, boilers, turbines, refrigeration. Three recitations. Prerequisites: Chemistry 2, Physics 52, Mathematics 52. 6 s.h.

ASSOCIATE PROFESSOR KENYON AND ASSISTANT PROFESSOR WILBUR

105. FLUID MECHANICS.—Fluid statics and dynamics. Flow through orifices, nozzles, diffusers, weirs, pipes, and around obstacles. General principles of pumps and turbines. Dimensional analysis and dynamic similarity. Three recitations. Prerequisites: Physics 52, Mathematics 52. 3 s.h.

ASSOCIATE PROFESSOR KENYON

106. HEAT TRANSFER.—Conduction, radiation and convection; heat transfer to boiling liquids or condensing vapors; over-all transfer of heat, steady state or variable flow. Applications to heat power, heating and air conditioning, and refrigeration. Prerequisites: ME 101 or 103, ME 105 or GE 128. ME 102 or 104 concurrently. May be elected by limited number of CE and EE students. 3 s.h.

ASSOCIATE PROFESSOR REED

108. AERONAUTICS.—A general course applying the principles of fluid mechanics to airfoils, propellers, and the complete airplane. Prerequisite: ME 105. 3 s.h.

ASSISTANT PROFESSOR ELSEVIER

113-114. JUNIOR MECHANICAL ENGINEERING LABORATORY.—Open only to mechanical engineering students. First semester, six laboratory hours, devoted to experiments and reports on instruments, dynamometers, hydraulics, analysis of exhaust gas, and properties of fuels and oils. Second semester, three laboratory hours, devoted to experiments and reports on analysis of coal, heating value of fuels, steam calorimetry and flow, injectors, and ejectors. ME 101-102 concurrently. 3 s.h. STAFF

115-116. JUNIOR MECHANICAL ENGINEERING LABORATORY.—Open only to electrical and civil engineering students. Experiments and reports on instruments, hydraulics, analysis of exhaust gas, internal combustion engines, oil-fired boiler, air compressor, steam engine and turbine, centrifugal fan and pump, and heating value of fuels. Three laboratory hours. ME 103-104 concurrently. 2 s.h.

STAFF

150-151. MACHINE DESIGN.—Application of principles of mechanics, strength of materials, constructive processes and engineering drawing to the design of bolted, riveted and welded connections, pressure vessels and machine elements, followed by design of at least one complete machine. ME 150 has two recitations and three laboratory hours; ME 151 has two recitations and six laboratory hours. Prerequisites: GE 107, ME 52, ME 53, ME 57. 7 s.h.

ASSISTANT PROFESSOR HOLLAND AND MR. MACCONOCHIE

153-154. HEATING, AIR CONDITIONING AND REFRIGERATION.—Determinations of heat losses and gains; design of steam, hot water and warm air heating and air conditioning systems; panel heating. Fundamentals of refrigeration theory and design. Applications of refrigeration to summer and year round air conditioning; commercial and industrial applications of refrigeration. Prerequisite: ME 106, ME 159-160 concurrently. Two recitations, three laboratory hours. 6 s.h.

ASSOCIATE PROFESSOR REED

155. INTERNAL COMBUSTION ENGINES.—Principal cycles; fuels and fuel mixtures; effect of real mixtures on theoretical cycles; combustion; carburetion and fuel injection. Thermodynamic analysis of engine performance. Modern development in the internal combustion engine. Three recitations. Prerequisite: ME 101-102. 3 s.h.

ASSISTANT PROFESSOR ELSEVIER

157. *CENTRIFUGAL PUMPS AND BLOWERS.—Studies of the basic principles of design, construction and application of centrifugal pumps and blowers. May also include studies of the theory of gas turbines. May be elected by a limited number of mechanical engineering seniors with consent of Chairman of Department. Prerequisite: ME 105. 3 s.h.

ASSISTANT PROFESSOR FULTON

158. INDUSTRIAL ENGINEERING.—A study of the industrial growth and present tendencies of productive industries as concerns the engineer. Specific topics treated are: plant location, organization, production and cost controls, wage payment, etc. Seniors only. Three recitations. 3 s.h.

ASSISTANT PROFESSOR LEWIS AND MR. SMITH

159. SENIOR MECHANICAL ENGINEERING LABORATORY.—Tests and reports on performance and economy of internal combustion engines, steam engines and turbines; heat transfer, radiator tests, and energy balances. Required of all seniors in mechanical engineering. Six laboratory hours. Prerequisite: ME 114, ME 153 concurrently. 2 s.h.

STAFF

* Offered only upon sufficient demand; enrollment limited.

160. SENIOR MECHANICAL ENGINEERING LABORATORY.—Required of all seniors in mechanical engineering. Tests and reports on boiler, engine, turbine, condenser and accessories; heat transfer; refrigeration equipment. Six laboratory hours. Prerequisite: ME 159. ME 154 and ME 162 concurrently. 2 s.h. STAFF

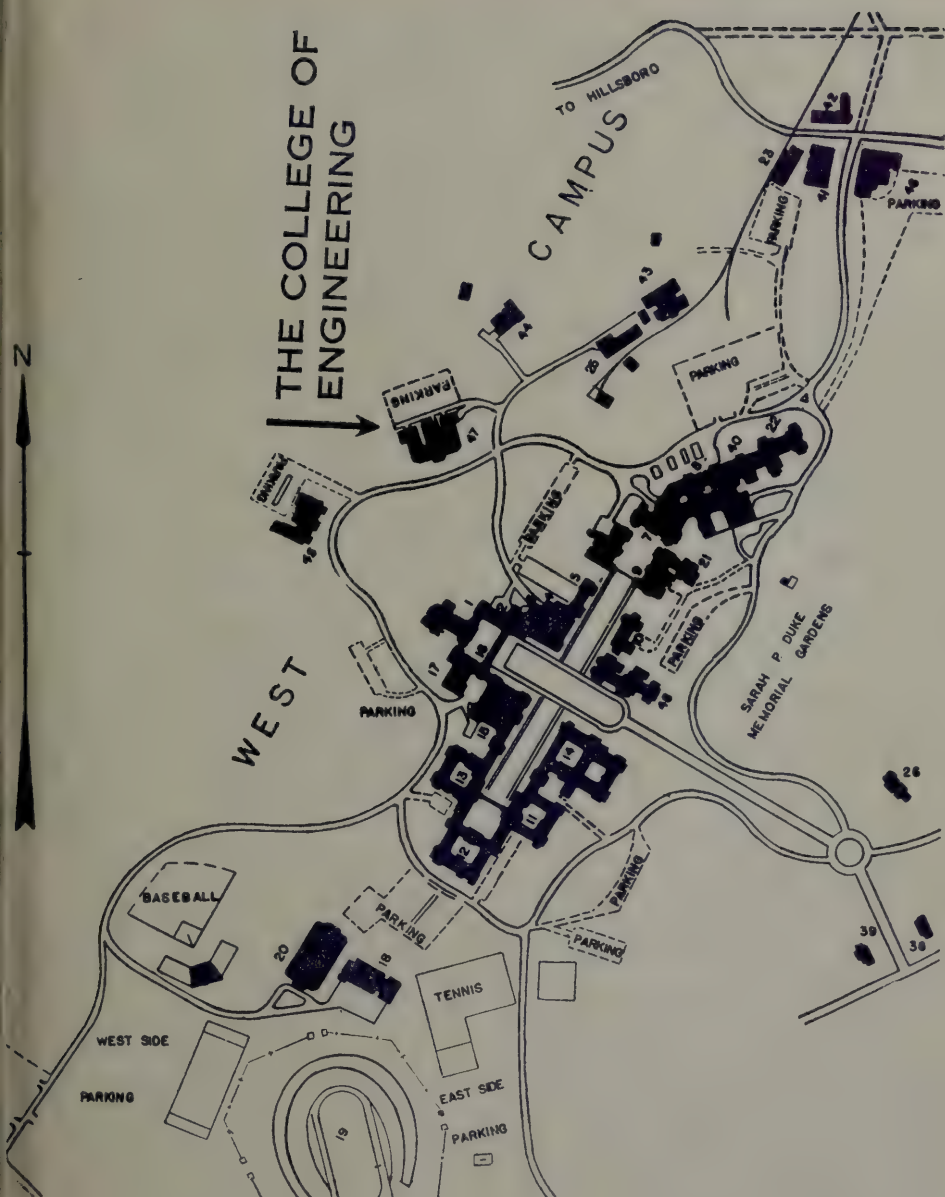
162. POWER PLANT CALCULATIONS.—Study of economic and engineering factors in developing steam power plants. Consideration of the performance of boilers, prime movers, condensers and various auxiliaries in various groupings as they affect the plant heat balance. May be elected by limited number of CE or EE students. Three recitations. Prerequisite: ME 102 or 104. ME 160 concurrently. 3 s.h. ASSOCIATE PROFESSOR KENYON

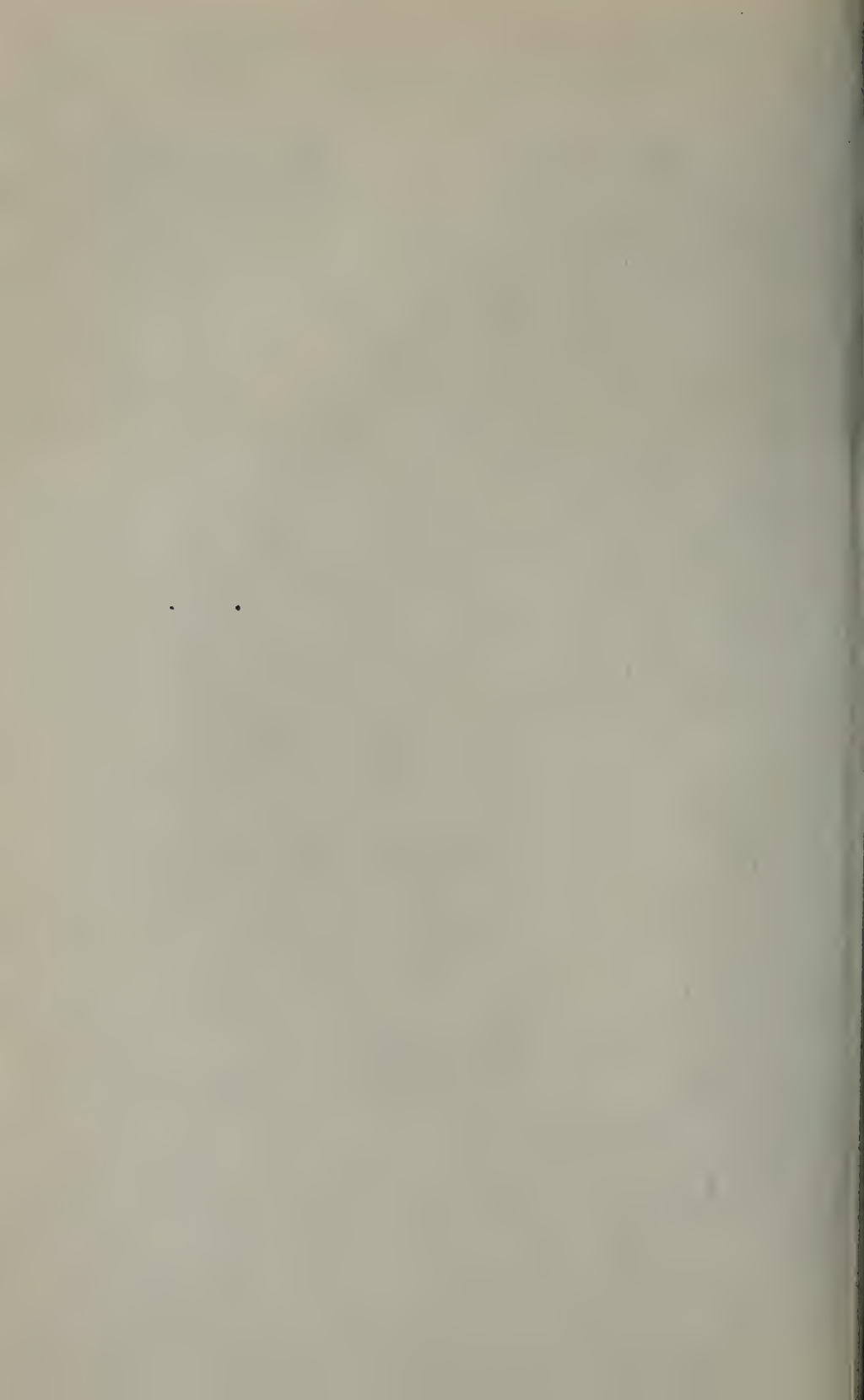
164. *ENGINEERING ANALYSIS.—A study of a series of engineering problems with particular reference to mathematical and graphical methods of solution and engineering interpretation of results. 3 s.h. ASSISTANT PROFESSOR WILBUR

166. *AIR CONDITIONING DESIGN.—Analysis of air-conditioning requirements, summer and winter, commercial and industrial. Design of systems and units, and selection of equipment. Open to seniors who have completed ME 153. 3 s.h. MR. SMITH

197-198. PROJECTS IN MECHANICAL ENGINEERING.—This course may be assigned by the Chairman of the Department to certain seniors who express a desire for such work and who have shown aptitude for research in one distinct field of mechanical engineering. Elective credit for either semester. 3-6 s.h. STAFF

* Offered only upon sufficient demand; enrollment limited.





BULLETIN
OF
DUKE UNIVERSITY



The School of Forestry

ANNOUNCEMENTS FOR 1955-56

VOLUME 27

January, 1955

NUMBER 3-B

Annual Bulletins

FOR GENERAL BULLETIN of Duke University, apply to *The Registrar*, Duke University, Durham, N. C.

FOR BULLETIN OF UNDERGRADUATE INSTRUCTION, apply to *The Registrar*, Duke University, Durham, N. C.

FOR BULLETIN OF THE COLLEGE OF ENGINEERING, apply to *The Registrar*, Duke University, Durham, N. C.

FOR BULLETIN OF THE GRADUATE SCHOOL OF ARTS AND SCIENCES, apply to *The Dean of the Graduate School*, Duke University, Durham, N. C.

FOR BULLETIN OF THE SCHOOL OF FORESTRY, apply to *The Dean of the School of Forestry*, Duke University, Durham, N. C.

FOR BULLETIN OF THE SCHOOL OF LAW, apply to *The Dean of the School of Law*, Duke University, Durham, N. C.

FOR BULLETIN OF THE SCHOOL OF MEDICINE, apply to *The Dean of the School of Medicine*, Duke University, Durham, N. C.

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FOR BULLETIN OF THE DIVINITY SCHOOL, apply to *The Dean of the Divinity School*, Duke University, Durham, N. C.

FOR BULLETIN OF THE SUMMER SESSION, apply to *The Director of the Summer Session*, Duke University, Durham, N. C.

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BULLETIN
OF
DUKE UNIVERSITY

THE SCHOOL OF FORESTRY



ANNOUNCEMENTS FOR 1955-56

DURHAM, NORTH CAROLINA
1955

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School of Forestry Calendar



1955

June	13	Monday—Registration of students for summer work in forestry.
June	14	Tuesday—Field work in Plane Surveying (C.E. S110) begins.
July	12	Tuesday—Field work in Forest-Tree Identification (For. S149) begins.
July	19	Tuesday—Field work in Forest Surveying (For. S150) begins.
August	16	Tuesday—Field work in Forest Mensuration (For. S151) begins.
September	20	Tuesday—Registration of students in the School of Forestry.
September	22	Thursday—Instruction begins in the School of Forestry.
October	24	week of, German examinations for candidates for doctorate degrees. Candidates register in the Graduate School Office for these examinations not later than October 17.
November	23	Wednesday, 5:00 P.M.—Thanksgiving recess begins.
November	28	Monday, 8:00 A.M.—Instruction is resumed.
December	11	Sunday—Founders Day.
December	17	Saturday, 12:30 P.M.—Christmas recess begins.

1956

January	3	Tuesday, 8:00 A.M.—Instruction is resumed.
January	11	French examinations for candidates for doctorate degrees. (Place to be announced.) Candidates register in the Graduate School Office for these examinations not later than January 4.
January	17	Tuesday—School of Forestry mid-year examinations begin.
January	27	Friday—School of Forestry mid-year examinations end.
January	30	Monday—Registration of students in the School of Forestry.
February	1	Wednesday—Second semester begins.
March	24	Saturday, 12:30 P.M.—Spring recess begins. School of Forestry Coastal Plain field work begins.
April	2	Monday, 8:00 A.M.—Instruction is resumed.
April	9	Monday, 8:00 A.M.—Coastal Plain field work ends.
April	13	French examinations for candidates for doctorate degrees. (Place to be announced.) Candidates register in the Graduate School Office for these examinations not later than April 4.
April	16	Monday—Last day for submitting Doctor of Forestry theses.
May	7	week of, German examinations for candidates for doctorate degrees. Candidates register in the Graduate School Office for these examinations not later than April 30.
May	15	Tuesday—Last day for submitting Master of Forestry theses.
May	21	Monday—School of Forestry final examinations begin.
May	31	Thursday—School of Forestry final examinations end.
June	2	Saturday—Commencement begins.
June	3	Sunday—Commencement Sermon.
June	4	Monday—Commencement address and graduating exercises.

Officers of Administration



ARTHUR HOLLIS EDENS, Ph.D., LL.D. <i>President of the University</i>	West Campus
WILLIAM HANE WANNAMAKER, A.M., Litt.D. <i>Vice-Chancellor of the University</i>	West Campus
PAUL MAGNUS GROSS, Ph.D. <i>Vice-President in the Division of Education</i>	Hope Valley
CHARLES EDWARD JORDAN, A.B., LL.D. <i>Vice-President in the Division of Public Relations</i>	813 Vickers Avenue
HERBERT JAMES HERRING, M.A., LL.D. <i>Vice-President in the Division of Student Life</i>	2010 Myrtle Drive
ALFRED SMITH BROWER, A.B. <i>Business Manager and Comptroller</i>	West Campus
CHARLES BLACKWELL MARKHAM, A.M. <i>Treasurer</i>	204 Dillard Street
CLARENCE FERDINAND KORSTIAN, M.F., M.A., Ph.D. <i>Dean of the School of Forestry</i>	4 Sylvan Road

COMMITTEE OF THE BOARD OF TRUSTEES ON THE SCHOOL OF FORESTRY

R. G. CHERRY, B. F. FEW, N. E. EDGERTON, J. R. SMITH

Faculty of the School of Forestry



ROGER FABIAN ANDERSON, M.S., Ph.D. <i>Associate Professor of Forest Entomology</i>	2528 Perkins Road
LEON EDWARD CHAIKEN, M.F. <i>Associate Professor of Forest Management</i>	2737 Dogwood Road
ELLWOOD SCOTT HARRAR, M.S., Ph.D. <i>Professor of Wood Technology</i>	2228 Cranford Road
TERRY WALTER JOHNSON, JR., Ph.D. <i>Assistant Professor of Botany</i>	825 Louise Circle
CLARENCE FERDINAND KORSTIAN, M.F., M.A., Ph.D. <i>Professor of Silviculture</i>	4 Sylvan Road
PAUL JACKSON KRAMER, M.Sc., Ph.D. <i>Professor of Botany</i>	2251 Cranford Road
CHARLES WILLIAM RALSTON, M.F., Ph.D. <i>Assistant Professor of Forest Soils</i>	1010 Arnette Avenue
FRANCES XAVIER SCHUMACHER, B.S. <i>Professor of Forestry</i>	6 Sylvan Road
CARL HENRY STOLTENBERG, M.F., Ph.D. <i>Assistant Professor of Forest Economics</i>	2733 Dogwood Road
ALBERT EDWARD WACKERMAN, M.F. <i>Professor of Forest Utilization</i>	3610 Dover Road, Hope Valley

Duke Forest Staff

CLARENCE FERDINAND KORSTIAN, M.F., M.A., Ph.D. <i>Director</i>	4 Sylvan Road
LEON EDWARD CHAIKEN, M.F. <i>Assistant Director</i>	2737 Dogwood Road
MANLY RANKIN BLACKMON <i>Superintendent</i>	2321 Erwin Road
MRS. ELIZABETH KEITH <i>Bookkeeper</i>	1615 Angier Avenue

Duke Arboretum

ELLWOOD SCOTT HARRAR, M.S., Ph.D. <i>Director</i>	2228 Cranford Road
------------------------------------------------------	--------------------

Technical Assistants in Forestry

*HAROLD WILLETT'S HOCKER, JR., M.F.	Apt. F-7, Westover Apts.
ANDREW RAY JEFFRIES, B.S.	2802 Bloodworth Drive

* Employed part-time.

Assistants in School Administration

MRS. NANCY A. McMANNEN

Recorder and Secretary to the Dean

304 N. Hyde Park Avenue

MRS. MIA LANDGRAF

Secretary

Rt. 1, Cornwallis Road

MRS. MARLENE N. MELCHERS

Secretary

1012 Carolina Avenue

*MONA FAY CARPENTER

Statistical Clerk

112 N. Driver Avenue

* Employed part-time.

Forestry in Duke University



General Statement

DUKE UNIVERSITY, located at Durham, North Carolina, comprises Trinity College, the Woman's College, the College of Engineering, the Graduate School of Arts and Sciences, the Divinity School, and the professional schools of Forestry, Law, Medicine, and Nursing. Nearly every state of the Union and several nations are represented in the student body of more than five thousand, not including the enrollment in the Summer Session.

The University goes back in its origin to 1838, when Union Institute was founded in Randolph County by the Methodists and Friends. In 1851 the institution became Normal College, one of the first schools in America for the training of teachers. In 1859 the name was changed to Trinity College and so continued until 1924, when the College became a part of Duke University.

By virtue of an indenture of trust, executed December 11, 1924, by James Buchanan Duke, a great benefaction was placed at the disposal of humanity by providing for hospitalization, church work in rural communities, and education. The principal feature of the educational provision was the creation of Duke University.

The University occupies two campuses. The Woman's College campus, with its 108 acres, was formerly the campus of Trinity College. About a mile to the west are the new units of the University. The new campus, totaling 467 acres, also known as the West Campus, was first occupied in September, 1930.

Forestry in Duke University began early in 1931, when, through placing the Duke Forest under intensive management for forestry purposes, a substantial beginning was made in laying the foundation for educational work and research in forestry.

An academic-forestry curriculum, designed for students intent upon pursuing the study of forestry, particularly as a profession after graduation, was organized in Trinity College of Duke University in 1932 (see *Announcement on Undergraduate Instruction in Duke University*). This course of study provides only for instruction in fundamental and auxiliary subjects basic to a proper understanding of the highly specialized work in technical forestry. Duke University offers no professional degree in technical forestry available to undergraduates.

Training in technical forestry leading to the professional degrees, Master of Forestry and Doctor of Forestry, is offered in the School of Forestry, and is open to graduates of recognized scientific schools or colleges, universities, and professional schools of forestry and to other men who meet the entrance requirements of the school (see p. 20).

Duke University is also prepared to offer, through the Graduate School of Arts and Sciences, graduate work in the more scientific aspects of forestry leading to the Master of Arts and Doctor of Philosophy degrees. This work is available to graduates of schools of forestry of recognized standing, and to college or university graduates holding the Bachelor's degree with their major work in appropriate scientific subjects. Undergraduate subjects which the college student, who does not have forestry training but who is contemplating work toward either degree in forestry, should take in preparation for this work may be illustrated as follows: At least two full years in botany, including general morphology or anatomy, the taxonomy, physiology, and ecology of plants; at least one course in zoology or general biology; courses in chemistry, physics, geology, economics, mathematics; and at least two years of French or German.

Several staff members of the Southeastern Forest Experiment Station are engaged in cooperative research projects in the Duke Forest. Specialists from this station and other prominent members of the U. S. Forest Service and representatives of forest and wood-using industries give occasional scheduled lectures at the School.

Educational Facilities

The School of Forestry is located in the Social Science and Biology Buildings on the West Campus. The School is provided with instruments and tools for use in both field and laboratory work in silvics, silviculture, harvesting, and forest mensuration. Modern surveying instruments and accessory equipment are available for work in forest surveying.

Fully equipped laboratories are provided for work in forest entomology, wood anatomy and properties, timber mechanics, and bonding of wood. A modern forest soils laboratory equipped for physical and chemical studies is available. In the field of seasoning and preservation of wood, a laboratory fully equipped with an experimental dry kiln, pressure treating cylinder, and vapor drying cylinder is available for instruction and research.

Facilities are also available for advanced work in plant physiology, plant anatomy, plant taxonomy, genetics, plant ecology, plant pathology, and the several branches of zoology.

The School of Forestry Library contains a growing collection of

material on forestry and related subjects. It includes important books and periodicals in English and in French, German, and other foreign languages. The Library is well provided with American material, including Federal and State documents and reports. Over 150 periodicals and serials of importance in forestry and related fields are received by subscription or exchange.

Greenhouses, connected to the Biology Building through a soil-storage and work room, provide adequate space for experimental work.

A nursery has been established by the University for joint use of the Sarah P. Duke Floral Garden, the Botany Department, and the School of Forestry. The forestry section of this nursery is used mainly for the growing of planting stock for the Arboretum and trees needed for research or other special purposes.

West Virginia Pulp and Paper Company has made available to Duke University a field headquarters for work in forests of the South Atlantic Coastal Plain located 18 miles northwest of Summerville, South Carolina. This company has extensive forest holdings under close supervision of a staff of technical foresters in South Carolina and permits access to its lands for instruction and research in forestry and allied fields. This headquarters camp with modern facilities for as many as 45 men is used as a base primarily for utilization work each spring and for special work in silviculture. The quarters may be available at other times for students and faculty members of the Duke School of Forestry working on special problems or doing advanced work in any of the fields of forestry concerned with coastal plain problems. The establishment of this headquarters camp in the coastal plain region makes it possible for the School of Forestry to provide instruction and conduct research in this important forest area in which many privately owned forests as well as public forests are intensively managed for the production and utilization of a wide range of forest products.

The School sponsors occasional lectures on forestry and conservation by speakers of national reputation.

An active Forestry Club is maintained as a student organization to bring the members of the School and students in the undergraduate academic-forestry curriculum into closer contact and to afford opportunities for extracurricular activities not otherwise available.

The Duke Forest

The Duke Forest, located in Durham and Orange counties, North Carolina, consists of five main units: namely, the Durham, New Hope Creek, Hillsboro, Eno, and Blackwood divisions. Early in the development of Duke University it was recognized that the possession of such

an area offered an unusual opportunity for the development of educational work in forestry.

Situated on the lower Piedmont plateau at elevations ranging from 280 to 760 feet, and composed of second-growth shortleaf, loblolly, and Virginia pines, oak, gum, hickory, maple, yellow poplar, ash, and other hardwoods, the Forest is representative of the various types of timber growth found throughout the region. Over a hundred different species of trees are found within or near the Forest. The land is rolling and there is relatively little rock outcrop, swamp, or other land of low productivity for timber growing. The total area of the Forest proper, exclusive of the University campus, is approximately 7,600 acres.

In developing the Duke Forest the following objectives are being emphasized:

1. Demonstration of various methods of timber growing, silvicultural treatment, and forest management applicable to the region.

2. Development as an experimental forest for research in the problems of timber growing and in the sciences basic thereto. In spite of the present timber situation and the accompanying economic ills, the technical and scientific knowledge required to handle forest crops efficiently on a permanent basis is still largely lacking. The Duke Forest affords a place where studies may be carried on to augment this knowledge for the large region of which the local forest and soil conditions are representative.

3. To serve as an outdoor laboratory where field work can be carried on by forestry students under the guidance of the Forestry Faculty. One of the most difficult problems in forestry education is to bring the students into contact with the realities of professional activities. With all operations in the Forest, both routine and research, recorded annually, it is possible for a qualified man to get in a short time a degree of practical knowledge or technical expertness which only an organized forest can provide.

The Duke Forest is particularly well located to serve as a field laboratory, since most of it is adjacent and easily accessible to the University campus. In fact, the Durham division practically surrounds the West Campus, which was laid out in one corner of the Forest. A paved State highway runs lengthwise through the Durham division, and several good roads cross the Forest. About fifteen miles of improved woods roads make all parts of the Forest readily accessible. A five-minute walk will take one well into the Forest, and any part of the Durham or New Hope Creek divisions can be reached by automobile in from ten to twenty minutes. At few other places in America can be found provisions for forestry training and research which includes the necessary forest literally at the door of a large university with its instructional, laboratory, and library facilities.

Approximately 1,400 acres of the Forest was open land, which had

been under cultivation prior to the establishment of the Forest. Such of the open land as was not restocking naturally to forest trees was planted. Arbitrarily by mixing species and varying the spacing between the trees in the plantations, the foundation was laid for future research into many perplexing problems, such as species relationships and requirements, the most desirable spacing and species to use in this region, and the survival and relative rates of growth of the different species of trees. To date approximately 1,400 acres of such plantations have been established. Pulp-wood thinnings on a commercial basis are now being made in a number of the older pine plantations.

A large number of permanent sample plots, ranging in size from one-tenth acre to over one acre, have been laid out in the Forest to study various problems. The plots are distributed through all the forest types, and range in purpose from studies of the effects of various silvicultural practices to studies of rates of growth and yields of the different timber types. Accurate records are kept on all this work, which will provide excellent material for student research. In the future many of these plots can also be used to demonstrate desirable forestry practices.

The development of the Forest as a demonstration of practical forest management is well advanced. Forest type and timber stand maps are available for each of four divisions except for recently acquired areas. A detailed soils map for the entire area is being prepared. Except for very recent acquisitions, each division has been subdivided into permanent compartments, and plans for the silvicultural treatment of each stand and working group have been formulated. The third ten-year inventory of the Forest resources has been completed and the results of management practices during the past twenty years are being assembled and will soon be available.

Cutting operations within the limits of annual growth are being carried on, and, as markets for definite products are developed or expanded, such operations will be increased. To date, approximately 1,300 acres in the pine types have been thinned. These thinnings serve the dual purpose of contributing to the operation of the Forest as a going business and of demonstrating sound forestry practices. An efficient fire protection organization has been developed in cooperation with the State and Federal governments, and forest fire losses are being held to a minimum. In managing the Forest, public recreation activities are recognized. Several recreation areas have been established, and over ten thousand picnickers, hikers, and horseback riders use the area annually. The Durham and New Hope Creek divisions of the Forest, together with several hundred acres of neighboring privately owned land, are incorporated in an Auxiliary State Game Refuge, and a number of wildlife management practices are being applied to designated areas in the Forest to provide the necessary food

and protection which will ultimately result in an increased amount of game in the surrounding territory. Records are being maintained of all activities in the Forest, and these records will become increasingly useful as they are improved as a result of further experience and research. With the diversification and expansion of activities now going on, students have an opportunity to study an operating forest in all its phases and to obtain a grasp of the proper balance between theory and practice.

The Forest is admirably located for research in forest soils. An unusually large number of different soil conditions occur in the Forest because of the diversity of parent rock, topography, and past land culture. Major soil differences are due to the nature of the parent material which includes the basic rock of the Carolina Slate formation, granites, Triassic sedimentary rock, and many types of basic intrusives.

An exceptionally good opportunity exists for the conduct of forest research by graduate students due to the wide range in forest types, ages, and soil conditions within the Forest and its proximity to the laboratories, greenhouses, and other scientific equipment and library facilities of the University. Research is being conducted on special problems, particularly in the fields of silvics, forest soils, forest-tree physiology, forest entomology, forest pathology, silviculture, forest management, and wood technology. The Forest is used not only for research in forestry but also for research in forest biology by members of allied departments.

The Arboretum

Of outstanding value in the teaching of both forestry and botany in the future is the provision for the development of an arboretum. Recently the Board of Trustees of Duke University voted to set aside permanently an area of over 90 acres to be used for arboretum purposes. The area lies between the East and West campuses along either side of Myrtle Drive. This is naturally a long-time project, and many years will elapse before the Arboretum will be most useful and most attractive. The University Trustees' Committee on Forestry in its report to the Board refers to the Arboretum as follows:

"The Arboretum should serve as a station for the study of trees and woody plants as individuals and in small groups in their scientific relations, economic properties, and cultural characteristics, requirements, and possibilities. It should render an economic service by acting as a research laboratory where trees and shrubs can be studied from the viewpoint of a fuller utilization of their commercial possibilities. It should render a cultural service by serving as a center where foresters, landscape architects, nurserymen, gardeners, and the

general public may increase their knowledge of indigenous trees and shrubs and where they may become acquainted with the foreign species than can be grown here. Within the University the Arboretum will supply living specimens and materials for several branches of botany and forestry."

The development of the Arboretum will proceed along these lines as rapidly as available funds and planting stock will permit.

Fellowships, Scholarships, and Graduate Assistantships in Forestry



A NUMBER of fellowships, scholarships, and research assistantships are available to men who offer promise of becoming leaders in the forestry profession. These will be awarded for high character and marked scholastic ability as judged by education, experience, and personal references.

Holders of the awards will pay tuition and such additional fees as are regularly required.

The awards are of three classes:

(1) *Fellowships*. Each recipient must have previously completed work equivalent to that required at Duke University for a Master's degree with major in forestry or in a discipline basic to forestry. He will devote his time to an approved program of study and research in any of the branches of forestry. He is expected to become a candidate for the degree of Doctor of Forestry or Doctor of Philosophy.

(2) *Scholarships*. Each recipient will normally devote his time to an approved program of study leading to the degree of Master of Forestry or Master of Arts with a major in forestry.

(3) *Graduate assistantships*. Each recipient will devote half-time to research or other work of the School of Forestry. He will be permitted to enroll for not more than 20 semester hours in a school year on a program of study, or study and research, leading to the degree of Master of Forestry, Master of Arts, Doctor of Forestry, or Doctor of Philosophy.

The following arrangements are common to the above fellowships, scholarships and research assistantships in forestry:

(1) Each applicant must have met the entrance requirements of the School of Forestry and must show high scholarship.

(2) It is highly desirable that each applicant state as specifically as possible the field in which he wishes to study. The definite selection of a major field of work—one that is specific in purpose and involves training both in fundamentals and in technique—is very helpful to the Committee on Awards.

(3) Application blanks for fellowships, scholarships, and research assistantships may be obtained by writing to the Dean of the School of Forestry, Duke University, Durham, North Carolina. When the blank has been filled out by the applicant, it should be returned to

the above address, and an *official transcript of record* showing college or university credits must accompany it or be forwarded promptly. The application and transcript must be filed not later than March 1 for consideration for the following academic year. In case vacancies occur, applications submitted on a later date may be considered.

Each year, upon the recommendation of a special awards committee, one fellowship in the amount of \$1,200 is awarded by the Union Bag and Paper Corporation, of Savannah, Georgia, to a graduate forester, selected on the basis of merit, ability and interest in the field of industrial forestry, for graduate study at the School of Forestry of Duke University. A fund of \$400.00 in addition to the fellowship stipend is available for payment of actual expenses incurred in the conduct of the recipient's research.

To be eligible for the fellowship an applicant must meet the following qualifications:

a. He must be a graduate of the School of Forestry, Alabama Polytechnic Institute; or School of Forestry, University of Florida; or George Foster Peabody School of Forestry of the University of Georgia; or School of Forestry, N. C. State College; or a resident of the State of Georgia and have earned at least a Bachelor's degree in forestry at another institution of higher learning.

b. He must have the quality-point grade average required for admission to the School of Forestry.

c. He must be of good character and show promise of ability to do creditable graduate work in forestry. This is evaluated by the awards committee on the basis of letters of recommendation, scholastic standing, a personal interview, and in such other ways as the committee may specify.

d. He must be interested in a career in a field of forestry that is concerned with the management, harvesting, or utilization of industrial forest properties, particularly in the South.

Those interested in applying for the Union Bag and Paper Corporation Forestry Fellowship should write to the Dean of the School of Forestry for application forms or for further information. Applications, with supporting papers, must be in the hands of the Committee not later than March 1 preceding the academic year for which the Fellowship will be granted. Announcement of the award will be made not later than April 1 of the same year.

In 1953 the Brunswick Pulp and Paper Company, of Brunswick, Georgia, established a five-year research project at the School for the purpose of developing information on the silviculture, management, and utilization of southeastern hardwood forests which are becoming increasingly important to forest industry. Active work on the project is conducted by a research fellow supported by the grant. Those interested in applying for the Brunswick Pulp and Paper Company Fellowship should correspond with the Dean of the School.

Tuition, Fees and Expenses



THE following table shows the general fees and charges collected from all students. All fees for each semester are due and payable, unless otherwise specified, at the time of registration at the beginning of that semester, and no student is admitted to classes until arrangements have been made with the Treasurer of the University for the settlement of fees.

General Fees

Tuition, per semester.....	\$225.00
General Fee, per semester.....	60.00

Forestry students may obtain admission to all regularly scheduled University athletic contests held on the University grounds during the entire academic year by payment of the athletic fee of \$10.00 per year plus any Federal taxes that may be imposed. This fee is payable in the fall semester.

TRANSCRIPTS: A student desiring to transfer from Duke University to another institution is entitled to one transcript of his record. A charge of one dollar is made for each additional copy.

PAYMENTS TO FELLOWS AND SCHOLARS: Payments by the University of stipends to fellows, research assistants, and scholars are made in four installments, on November 25, January 25, March 25, and May 25. Fellows and scholars are required to pay the regular tuition fee and such additional fees as are ordinarily required of graduate students.

Living Accommodations

The Men's Graduate Center is available to men of the graduate and professional schools. It contains bedroom facilities for four hundred men, complete with lounges, study rooms, recreational rooms, post office and dining hall. The rooms are equipped for two persons and the rental charge for a double room is \$350.00 for the academic year, or \$175.00 for each occupant, or \$87.50 for each occupant each semester.

Rooms are rented for a period of not less than one semester, and without special arrangements, the rate is \$1.00 per day with a minimum charge of \$25.00.

Room reservations are made through the Housing Bureau only after official acceptance for admission to the University. A \$25.00 room deposit is required of each applicant before a room reservation is made. The initial room deposit is effective during the student's residence in the University if attendance is continuous in regular academic years.

This deposit will be refunded under the following conditions:

- a. Within thirty days after the student has been graduated.
- b. Upon withdrawal from the University, provided written notice is received in the Housing Bureau by August 1, for cancellation of a reservation for the fall semester; and not later than January 15, for cancellation of a reservation for the spring semester.
- c. When the reasons requiring withdrawal are beyond the student's control.

No refund is made until the occupant has checked out of his room through the Housing Bureau and has settled all of his account with the Treasurer.

A resident student, in order to retain his room for the succeeding academic year, must make application at the office of the Housing Bureau for confirmation of the reservation in accordance with the plan that is published during the school year.

Any exchange of rooms must be arranged at the Housing Bureau. Persons exchanging rooms without the approval of the Housing Bureau will be subject to charges for both rooms.

The authorities of the University do not assume responsibility for the persons selected as roommates. Each student is urged to select his roommate when the room is reserved.

Beds and mattresses (39"x74"), tables, chairs, dressers, mirrors, and window shades are furnished by the University. The student supplies linens, blankets and pillows. Rugs, totaling not more than 54-square-foot, study lamps and curtains are permissible, and if desired, are furnished by the students.

Duke University desires to provide for its students a residential environment conducive to academic achievement, the development of high ideals, and sound character. The institution asks and believes that each student will cooperate in achieving these aims by arranging his personal belongings in an orderly manner, by caring for the buildings and furniture as he would do in his own home, and by observing a code based on gentlemanly behavior in an educational environment which demands respect for all residents. Regulations governing the occupancy of rooms will be supplied directly from the Housing Bureau when room reservations are made. Occupants are expected to abide by these regulations.

ESTIMATED EXPENSES FOR AN ACADEMIC YEAR: The necessary expenses of a graduate student are moderate: the University dormitories provide thoroughly comfortable and wholesome living conditions at a minimum cost, while all charges made by the University have been kept low. Incidental expenses naturally depend upon the tastes and habits of the individual. The following table gives the necessary college expenses for one year:

	<i>Low</i>	<i>Moderate</i>	<i>Liberal</i>
Tuition	\$ 450.00	\$ 450.00	\$ 450.00
General Fee	120.00	120.00	120.00
Room-rent	175.00	175.00	225.00
Board	400.00	450.00	500.00
Laundry	25.00	30.00	35.00
Books	30.00	40.00	50.00
Athletic Fee (optional)	10.00	10.00	10.00
<i>Total</i>	<u>\$1,210.00</u>	<u>\$1,275.00</u>	<u>\$1,390.00</u>

Requirements for Admission to the School of Forestry



THE admission requirements of the School of Forestry for work toward the Master of Forestry degree presuppose that an applicant is either:

1. A graduate of a scientific school, college, or university of high standing, but without professional training in forestry, or
2. A graduate of a professional school of forestry, or
3. A student who has successfully completed the pre-forestry curriculum of one of the institutions cooperating with the School of Forestry, as indicated on pages 22 and 23.

Each applicant must present a certified transcript of his academic record showing the courses he has taken, the number of credit hours he has earned and the grades received. The total number of quality points* must be at least one and one half times the total credit hours to meet the minimum scholastic standards required for admission to the School. An applicant also must have satisfactorily completed undergraduate work in minimum amount, as follows:

One year of biology, including at least one semester of botany, or one year of botany.

One year each of English composition and of chemistry.

One course each in physics and in the principles of economics.

Mathematics, through college algebra and trigonometry.

It is urged that an applicant without professional training in forestry present additional credits in the above subjects and in one or more of the following subjects: soils, geology, mineralogy, petrology, climatology, surveying, languages (particularly German and French), sociology, political science, philosophy, psychology, and zoology.

An applicant who is a graduate of a professional school of forestry will present a certified transcript of scholastic record showing the award of a degree. Before registering for the first semester of residence, such applicants will be required to select the branch or branches of forestry in which they wish to concentrate the major part of their work and to prepare their proposed programs in conference with the

* Grades for each hour of college credit and also, for credit earned in the School of Forestry are valued in quality points as follows: "A," 3 points; "B," 2 points; "C," 1 point; "D," no points; and "F," no credit and —1 point, unless the failed courses have later been passed.

appropriate faculty adviser. Ordinarily graduates of a fully accredited school of forestry should be able to meet all requirements for the Master of Forestry degree in one full school year of resident study; others will require a longer period of residence.

Students must make application for admission in advance of the opening of the school year. Those students entering without acceptable courses in plane surveying, forest-tree identification, forest surveying, and forest mensuration must take the work in these subjects in the Summer Session, and are required to submit their applications prior to May 1. Students entering with advanced standing in all four courses should make application before September 1. Application blanks will be sent upon request made to the Dean of the School of Forestry.

Cooperative Plan of Study with Selected Colleges and Universities



AWARE of the far reaching values to be derived from training in the liberal arts and sciences, the Duke School of Forestry, since its inception, has had the cooperation of Trinity College, the men's undergraduate college of arts and sciences of Duke University, in preparing students for professional careers in forestry. Under the plan a student devotes his first three years to a coordinated and carefully integrated program of study in the basic arts and sciences in Trinity College. The summer between his junior and senior year and the two following school years are spent in the School of Forestry. Upon the successful completion of this five-year course of study, a student has earned the Bachelor of Science degree from Trinity College and the professional Master of Forestry degree from the Duke School of Forestry.

Based upon the experience and success of this cooperative program with Trinity College, the School of Forestry in 1952 initiated similar programs of collaboration with a selected group of colleges and universities located throughout the United States. These programs offer students the numerous advantages of a broad background in liberal arts and sciences as preparation for later professional training. A student intent upon following such a course of study should make application to one of the colleges listed below. Admission requirements and other information pertinent to matriculation may be obtained from each of these institutions. Not later than the end of the first semester of the third year in the college or university of his choice, the student must make formal application for admission to the Duke School of Forestry. To qualify for admission under these programs, a student must have followed a planned course of study arranged in consultation with his advisor, must have the official recommendation of his college, and must meet the minimum requirements for admission to the Duke School of Forestry.

Cooperating Institutions

(as of the date of publication)

Albion College.....	Albion, Michigan
Albright College.....	Reading, Pennsylvania
Baldwin-Wallace College.....	Berea, Ohio

Baylor University, College of Arts and Sciences.....	Waco, Texas
Beloit College.....	Beloit, Wisconsin
Bridgewater College.....	Bridgewater, Virginia
Butler University, College of Liberal Arts and Sciences.....	Indianapolis 7, Indiana
Capital University, College of Arts and Sciences.....	Columbus 9, Ohio
Carson-Newman College.....	Jefferson City, Tennessee
Catawba College.....	Salisbury, North Carolina
Centenary College of Louisiana.....	Shreveport, Louisiana
Centre College of Kentucky.....	Danville, Kentucky
Colorado College.....	Colorado Springs, Colorado
Davis and Elkins College.....	Elkins, West Virginia
Denison University, A College of Liberal Arts and Sciences.....	Granville, Ohio
DePauw University, College of Liberal Arts.....	Greencastle, Indiana
Doane College.....	Crete, Nebraska
Drew University, College of Liberal Arts.....	Madison, New Jersey
Duke University, Trinity College.....	Durham, North Carolina
Elizabethtown College.....	Elizabethtown, Pennsylvania
Florida Southern College.....	Lakeland, Florida
Franklin and Marshall College.....	Lancaster, Pennsylvania
Furman University.....	Greenville, South Carolina
Gettysburg College.....	Gettysburg, Pennsylvania
Guilford College.....	Guilford College, North Carolina
Heidelberg College.....	Tiffin, Ohio
High Point College.....	High Point, North Carolina
Hofstra College.....	Hempstead, Long Island, New York
Howard College.....	Birmingham 6, Alabama
Illinois Wesleyan University, College of Liberal Arts.....	Bloomington, Illinois
Indiana Central College.....	Indianapolis 27, Indiana
Iowa Wesleyan College.....	Mount Pleasant, Iowa
Juniata College.....	Huntingdon, Pennsylvania
Kent State University, College of Liberal Arts.....	Kent, Ohio
Kentucky, University of, College of Arts and Sciences.....	Lexington, Kentucky
Lebanon Valley College.....	Annvile, Pennsylvania
Lincoln Memorial University.....	Harrogate, Tennessee
Lycoming College.....	Williamsport, Pennsylvania
Marietta College.....	Marietta, Ohio
Miami University, College of Arts and Sciences.....	Oxford, Ohio
Middlebury College.....	Middlebury, Vermont
Millsaps College.....	Jackson, Mississippi
Moravian College.....	Bethlehem, Pennsylvania
Muhlenberg College.....	Allentown, Pennsylvania
Newberry College.....	Newberry, South Carolina
Otterbein College.....	Westerville, Ohio
Randolph-Macon College.....	Ashland, Virginia
Reed College.....	Portland 2, Oregon
Richmond, University of, Richmond College.....	Richmond, Virginia
Rollins College.....	Winter Park, Florida
Stetson University, College of Liberal Arts.....	DeLand, Florida
Thiel College.....	Greenville, Pennsylvania
Western Maryland College.....	Westminster, Maryland
West Virginia Wesleyan College.....	Buckhannon, West Virginia
Willamette University, College of Liberal Arts.....	Salem, Oregon
William Jewell College.....	Liberty, Missouri
William and Mary, College of.....	Williamsburg, Virginia
Wittenberg College.....	Springfield, Ohio
Wofford College.....	Spartanburg, South Carolina

Requirements for the Degree of Master of Forestry



THE degree of Master of Forestry (M.F.) is conferred upon students who have satisfactorily completed at least two years of study in technical forestry and one term of thirteen weeks' work in plane surveying, forest-tree identification, forest surveying, and forest mensuration in the Summer Session. In addition to the Summer Session work a total of not less than sixty semester hours' credit is required for the M.F. degree, of which at least fifty shall have been obtained in the School of Forestry. Each student, to qualify for the M.F. degree, must have obtained at least one and one half quality points per semester hour of credit under the quality-point system (see page 20).

Field studies of typical timber-harvesting, manufacturing, and other utilization operations in the South Atlantic Coastal Plain are conducted from the School's field headquarters during a two-week period in the spring semester as part of the work required of students registered in Harvesting and Processing Forest Products (Forestry 211-212). Other students may be permitted or advised to take the field trip for which one semester hour of credit may be earned by registering for Forestry 212. A similar period of field work in forest soils, silviculture, forest management, and other subjects in the coastal plain is available to students.

No student may take less than fourteen or more than eighteen hours in any one semester without special permission of the School of Forestry Faculty. The following work will be required of all candidates for the M.F. degree:

SUMMER SESSION

	S.H.
Plane Surveying (C.E. S110).....	4
Forest-Tree Identification (F. S149).....	1
Forest Surveying (F. S150).....	4
Forest Mensuration (F. S151).....	4

FIRST YEAR

First Semester

	S.H.
Harvesting and Processing Forest Products (F. 211).....	3
Properties of Wood (F. 259).....	3
Forest Soils (F. 261).....	3
Economics of Forestry (F. 277).....	3
Electives	3

Second Semester

	S.H.
Harvesting and Processing Forest Products Field Trip (F. 212).....	1
Forest Pathology (F. 224).....	3
Sampling Methods (F. 251).....	3
Dendrology (F. 254).....	3
Silvics (F. 264).....	3
Electives	2

SECOND YEAR

Two curricula in forestry are available after the common minimum requirements for both have been met. One is in general forestry; the other in forest products. The required work in each curriculum, in addition to that common to both, is:

GENERAL FORESTRY CURRICULUM

First Semester

	S.H.
Forest Entomology (F. 231).....	3
Silviculture (F. 265).....	3
Applied Silviculture (F. 267).....	1
Forest Valuation (F. 279).....	3
Forest Management (F. 281).....	3
Thesis research or electives.....	2

Second Semester

	S.H.
Soils and Silviculture Spring	
Trip (F. 266).....	1
Forest Protection (F. 274).....	2
Advanced Forest Management (F. 342)	2
Thesis research or electives.....	10

FOREST PRODUCTS CURRICULUM

First Semester

	S.H.
Seasoning and Preservation (F. 213).....	3
Silviculture (F. 265).....	3
Forest Management (F. 281).....	3
Advanced Forest Utilization (F. 311).....	3
Thesis research or electives.....	3

Second Semester

	S.H.
Forest Products Entomology (F. 232).....	3
Wood Anatomy (F. 260).....	3
Industrial Engineering (Eng. 158).....	3
Thesis research or electives.....	6

The submission of a thesis for the M.F. degree is optional. In lieu of a thesis, and with the approval of a student's faculty adviser, an acceptable report on a special study will be required, credit for which will not exceed three semester hours.

Each candidate who writes a thesis will be required to file in the office of the Dean of the School of Forestry on or before May 15 three copies of the thesis, typewritten and bound in accordance with regulations set forth by the Faculty. The thesis shall be based upon an original study made in the field, laboratory, or library.

Work of equivalent grade done in residence at other institutions may, with the approval of the Faculty, be accepted as credit toward the M.F. degree. A minimum of one year's residence is required at Duke University. Students who have had satisfactory undergraduate training in forestry may, with the approval of the Faculty, elect to devote the major portion of their time to research under the supervision of one or more members of the Faculty and prepare a more comprehensive thesis than is required of students entering the School without previous work in forestry. Students in the School of Forestry may take in allied departments of the University as electives certain courses approved by the Faculty.

Requirements for the Degree of Doctor of Forestry



THE degree Doctor of Forestry (D.F.) is a professional and research degree conferred on those students who have satisfactorily completed specified requirements of advanced study and research. Although course work is a necessary part of a student's program, the mere accumulation of course credits will not be sufficient for the attainment of this degree. The granting of the D.F. degree is based primarily upon the student's thorough knowledge of a specialized field of study and upon the production of an acceptable dissertation embodying the results of original research. The general requirements, which are presented in the following paragraphs, ordinarily will be rigidly adhered to, although deviations in exceptional cases may be made with the approval of the Faculty of the School of Forestry.

The D.F. degree is offered with majors (also minors) in the following branches of forestry: forest economics, forest entomology, forest management, forest mensuration, forest pathology, forest soils, forest-tree physiology, forest utilization, silvics, silviculture, and wood and forest products technology.

Prospective students should correspond with the Dean of the School of Forestry on all matters pertaining to admission to the School.

ENTRANCE REQUIREMENTS: A prospective student must have received the degree of Master of Forestry, or its equivalent, from a school of forestry of recognized standing. His scholastic average for his undergraduate work must be at least $1\frac{1}{2}$ quality points, and that of his graduate studies two quality points per hour of credit.

An applicant must file a formal application for admission together with transcripts of his undergraduate and graduate academic records. In his application he should clearly state the branch of forestry in which he desires to concentrate, and if possible, the specific research.

The Committee on Admissions of the School of Forestry, together with the prospective student's major adviser, will determine if the qualifications of the applicant meet entrance requirements.

RESIDENCE REQUIREMENTS: The period of resident study beyond the M.F. degree or its equivalent is two years. Course work of equal grade taken at another college or university may, with Faculty approval, be accepted in partial fulfillment of the residence re-

quirement, but the last year of residence must be at Duke University. With the approval of the Faculty, one year of resident credit may be granted for work taken in the regular terms of the Summer Session of Duke University. Graduate work of a fragmentary nature taken over a period of several years will not meet the residence requirement.

PROGRAM OF STUDY: A committee consisting of five members of the Faculty will be appointed by the Dean to supervise the work of each student. This committee shall consist of a major adviser, a minor adviser and three other Faculty members. The major adviser will serve as Committee Chairman.

If the student's previous training is inadequate, he will be required to remedy such deficiencies as may be directed by his committee. The student, in consultation with his advisers, will prepare a program of study and research. The proposed program will be presented to the committee for consideration and acceptance, and then submitted to the Faculty of the School of Forestry for final approval. The minor requirement may be fulfilled by advanced course work or course work and research. Requirements for the minor will be established by the Faculty member in charge of the field. The minor may be taken in the School of Forestry, or in another department, school, or college in the University.

A grade point average of at least two quality points per credit hour is required of all work toward the doctorate.

FOREIGN LANGUAGES: A reading knowledge of two foreign languages is required. One of these shall be either French or German; the other will be selected by the committee with the view toward determining the student's needs. The foreign language examinations will be conducted by the appropriate language departments or, for certain languages, by a qualified member of the Faculty of Duke University.

COMPREHENSIVE EXAMINATION: At least six months before the student expects to receive the D.F. degree, and after he has completed the foreign language requirement and most of his formal course work, he will be required to take a comprehensive preliminary examination. The examination will be written in subjects specified, and may be followed by an oral examination given by the committee. The decision as to whether the examination has been passed or failed is the responsibility of the committee.

Should the student fail the comprehensive examination he may apply for a second examination to be taken not earlier than six months after the first. Failure in the second examination renders the student ineligible to continue work for the D.F. degree at Duke University.

Upon satisfactory completion of the preliminary examination the student shall be considered a candidate for the D.F. degree.

DISSERTATION: In addition to obtaining adequate training in the field of his specialty, the student must demonstrate his ability to plan and conduct sound, original research. Evidence of this accomplishment must be presented in the form of an acceptable dissertation embodying the results of original work, which is a definite contribution to knowledge.

The subject of the dissertation must receive the approval of the Faculty, and the title filed with the Dean of the School of Forestry on or before October 15 of the academic year in which the candidate desires to take his final examination.

Four typewritten copies of the dissertation in approved form, must be deposited with the Dean of the School of Forestry on or before April 15 of the academic year in which the student expects to obtain the D.F. degree. The original and first carbon copy will be deposited in the University Library, the major adviser will receive one copy, and the fourth copy will be returned to the student.

The dissertation must be published either in its original form or in a modified form approved by the major adviser. In its published form the title page should include this statement: "A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Forestry in the School of Forestry of Duke University." In some instances an abstract, published in a recognized journal, will be considered as meeting the publication requirement.

The candidate must deposit a fee of \$50.00 with the Treasurer of the University on or before May 1 of the year the degree is to be conferred. If the dissertation is published in acceptable form within three years from the time the degree is granted, the deposit will be returned to the student upon receipt of 10 reprinted copies of the publication.

FINAL EXAMINATION: The final examination will be in defense of the candidate's dissertation and on related subject matter. It will be oral and will be conducted by the supervisory committee. At least six months must elapse between the dates of the preliminary and the final examinations.

Forestry in the Graduate School



MAJOR and minor work is offered in the scientific aspects of forestry leading the A.M. and Ph.D. degrees, which are administered by the Graduate School of Arts and Sciences. Work for these degrees may be pursued only in forest-tree physiology, wood anatomy and properties, forest pathology, silvics, forest soils, forest mensuration, forest entomology, and forest economics. Students who have had specialized training in botany or soil science and in allied basic subjects, such as physics, chemistry, geology, and zoology, may pursue graduate study and research only in the specialized fields for which their previous work has qualified them. Students who do not have previous training in forestry will be required to complete a minimum of thirty semester hours of approved work in forestry as a preliminary requirement to advanced study for the A.M. and Ph.D. degrees. Holders of these degrees will not be regarded as professionally trained foresters.

Applicants for admission to the Graduate School must ordinarily have made, in their undergraduate work, not less than a "B" average and must not have concentrated excessively in one field of study to the detriment of a rounded program. They should have met substantially the requirements for the A.B. or B.S. degree at Duke University.

In addition to fulfilling the usual requirements for admission, the applicant must satisfy the Director of Graduate Studies in Forestry as to his liberal arts training, as well as to his preliminary training in the field of forestry.

For detailed information concerning admission to the Graduate School, and for regulations governing candidacy for the A.M. and Ph.D. degrees, language requirements, residence requirements, and other regulations concerning these degrees, the student should consult the *Bulletin* of the Graduate School of Arts and Sciences.

Courses and Subjects of Instruction



With the exception of the Summer Session courses, odd-numbered courses are offered in the autumn semester, and even-numbered courses are offered in the spring semester.

IN THE SUMMER SESSION

C.E. S110. PLANE SURVEYING.—A special section of C.E. 61 intended for students in forestry and others of advanced standing. *Four weeks, eight hours a day, beginning June 14, 1955. 4 s.h.* MR. THARP

S149. FOREST-TREE IDENTIFICATION.—Field studies leading to the identification of trees and principal shrubs indigenous to the Piedmont and coastal plain forests of the Southeastern United States. *One week, eight hours a day, beginning July 12, 1955. 1 s.h. (w)* MR. HARRAR

S150. FOREST SURVEYING.—Application of plane surveying to forest problems; practice in making boundary and topographic surveys of forested tracts, using both intensive and extensive methods. Work includes use of transit, level, traverse board, topographic abney and slope tape, and aneroid barometer. Prerequisites: Civil Engineering S110, plane surveying, Forestry S149, forest-tree identification or equivalents. *Four weeks, eight hours a day, beginning July 19, 1955. 4 s.h. (w)* MR. CHAIKEN

S151. FOREST MENSURATION.—Field studies in methods of measuring content and growth of trees and forest stands; practice in timber estimating, log scaling, use of mensurational instruments, and collection of basic data. *Four weeks, eight hours a day, beginning August 16, 1955. 4 s.h. (w)* MR. SCHUMACHER

FOR SENIORS AND GRADUATES

211-212. HARVESTING AND PROCESSING FOREST PRODUCTS AND FIELD TRIP.—Methods of harvesting and processing forest products with emphasis on methods and costs in managed North American forests. A two-week field trip (F. 212), during which typical forest harvesting operations and processing plants are studied, is required of students taking Forestry 211. The field trip (F. 212) may be taken by other students having had work equivalent to Forestry 211. F. 211—3 s.h.; F. 212—1 s.h. (w) MR. WACKERMAN

213. SEASONING AND PRESERVATION OF WOOD.—Principles of seasoning lumber and other forest products by air drying and kiln drying, types of kilns and their operation; principles, methods, and materials used in treating wood to increase its durability. 3 s.h. (w) MR. WACKERMAN

214. MARKETING FOREST PRODUCTS.—Methods of selling and distributing timber, lumber, and other forest products in domestic and foreign trade; transportation methods; promotional activities of trade associations; competition between producing regions for markets and problems arising from the development of wood substitutes. Prerequisites: Forestry 211-212 or equivalent. 3 s.h. (w) MR. WACKERMAN

216. LUMBER MANUFACTURING.—Methods of processing logs for sawn products with emphasis on the principles involved in obtaining maximum volume and quality yield for large and small mills and concentration yards; trends in production and consumption of lumber by regions and the development of new lumber products. 3 s.h. (w) MR. WACKERMAN

224. **FOREST PATHOLOGY.**—Infectious and non-infectious diseases of forest trees, and related deterioration of forest products. Field and laboratory study of symptoms, etiology, and control. Prerequisites: Botany 1 and 2, or equivalent. 3 s.h. (w) **MR. JOHNSON**

231. **FOREST ENTOMOLOGY.**—Principles of protecting forests from insect attack; character of insect damage to forest trees and their products; identification and biology of important species; survey methods and control. 3 s.h. (w) **MR. ANDERSON**

232. **FOREST-PRODUCTS ENTOMOLOGY.**—Recognition of insect damage to wood products; etiology, biology and control of important species. 3 s.h. (w) **MR. ANDERSON**

236. **FOREST-GAME MANAGEMENT.**—Principles of management for the sustained production of desirable game and fur animals on forest lands; characteristics and biology of important species. 3 s.h. (w) **MR. ANDERSON**

237. **FOREST-RANGE MANAGEMENT.**—Principles of management of livestock grazing on forest ranges on the basis of sustained multiple use. 3 s.h. (w) **MR. ANDERSON**

251. **SAMPLING METHODS IN FORESTRY.**—Statistical background for solution of sampling problems with special reference to sample inventory of a forest property. Offered both semesters. Prerequisite: Forestry SI51. 3 s.h. (w) **MR. SCHUMACHER**

252. **FOREST MENSURATION.**—Empirical equations and curve fitting appropriate for construction of timber yield tables, tree volume and taper tables; significance tests and graphical solution of equations. Assignments require operation of calculating machines. Prerequisite: Forestry 251. 3 s.h. (w) **MR. SCHUMACHER**

254. **DENDROLOGY.**—Nomenclature, classification, and identification of woody plants with special reference to species indigenous to southeastern United States and other important forest regions of temperate North America. Laboratory and field work. Prerequisite: one year of biology. 3 s.h. (w) **MR. HARRAR**

255. **BONDING OF WOOD.**—Preparation of veneers and lumber for bonding; types and characteristics of modern adhesives used in the manufacture of plywood and laminates; cold and hot pressing procedures; use of electronic heating; bag molding techniques; manufacture and properties of transmuted wood; inspection and testing procedures. Prerequisite: Forestry 260 or equivalent. 3 s.h. (w) **MR. HARRAR**

257. **DESIGN OF FORESTRY EXPERIMENTS AND ANALYSIS OF DATA.**—Role of experimental design in field and laboratory, and statistical analysis of data as aspects of scientific methods in forest research. 5 s.h. (w) **MR. SCHUMACHER**

259. **PROPERTIES OF WOOD.**—The chemical nature of wood substance and its industrial chemical derivatives. Wood-moisture relationships; pertinent non-mechanical physical properties; mechanical properties and factors affecting the strength of wood; standard timber testing procedures. Uses of woods as determined by their properties. Prerequisites: one year of college chemistry; one course in college physics. 3 s.h. (w) **MR. HARRAR**

260. **WOOD ANATOMY.**—Study of the physical features and the gross and minute structural characteristics of wood leading to the identification of the commercial woods of the United States, and the important tropical woods used in American wood-working industries. Elementary microtechnique. Prerequisite: one year of biology. 3 s.h. (w) **MR. HARRAR**

261. **FOREST SOILS.**—Origin, development, and classification of soils with special emphasis on those developed in humid climates; morphological, physical, and chemical properties of soils in relation to growth of trees; effect of forests on soils. Prerequisites: Chemistry 1 and 2, and Physics 1, or equivalent; physical geology, mineralogy, petrology, and analytical chemistry are also desirable. 3 s.h. (w) **MR. RALSTON**

264. **SILVICS.**—Ecological foundations of silviculture with special reference to forest site factors; influence of forests on their environment; growth and development of trees and stands; origin, development, and classification of forest communities; methods of studying forest environments. Desirable prerequisites: plant physiology, plant ecology, and Forestry 261, or equivalents. 3 s.h. (w)

MR. RALSTON

265. **THEORY AND PRACTICE OF SILVICULTURE.**—Principles governing natural regeneration and treatment of forest stands and their application; reproduction methods, intermediate cuttings, and cultural operations. Field practice includes marking for various kinds of cuttings, cultural treatments, and study of managed stands in the Duke Forest. Prerequisite: Forestry 264 or equivalent. 3 s.h. (w)

MR. KORSTIAN

266. **SOILS AND SILVICULTURE SPRING TRIP.**—Approximately one week at spring camp studying soils and silviculture in the coastal plain. Prerequisites: Forestry 261, 265 or equivalents. 1 s.h.

MR. RALSTON

267. **APPLIED SILVICULTURE.**—Application and comparison of silvicultural practices to principal commercial forest species, types and regions of temperate North America, with particular emphasis on the South. Field work will include preparation of silvicultural plans. Prerequisite: Forestry 265 or equivalent. 1 s.h. (w)

MR. KORSTIAN

268. **FOREST SEEDING AND PLANTING.**—Place of artificial regeneration in practice of forestry; reforestation surveys and plans; collection, extraction, cleaning, testing and storage of forest tree seeds; direct seeding; nursery practice; forest planting. 2 s.h. (w)

MR. KORSTIAN

274. **FOREST PROTECTION.**—Principles of forest protection; causes, character and effects of forest fires; principles of forest fire prevention, suppression and suppression; fire control costs and fire plans; protection against domestic animals, wildlife, and atmospheric agencies. 2 s.h. (w)

MR. CHAIKEN

276. **FORESTRY POLICY.**—Objective study and analysis of the development of public land and forestry policies in the United States, present policies of public and private forestry organizations, and current policy issues in the light of economic and other criteria. Prerequisites: Forestry 279, 281. 2 s.h. (w)

MR. STOLTENBERG

277. **ECONOMICS OF FORESTRY.**—Principles of economics used in the analysis of factors affecting the supply of forest products, pricing of stumpage and primary forest products, factors affecting the demand for forest products, economic characteristics and problems of the major forest products industries; analysis of such specific private forestry problems as marketing, forest ownership pattern, taxation, credit, risk, and economic fluctuations. Prerequisite: at least one course in the principles of economics. 3 s.h. (w)

MR. STOLTENBERG

279. **FOREST VALUATION.**—Principles of economics applied to the appraisal of land values and management alternatives; theory and application of interest and the discount process; marginal analysis applied to the specific problems of firms engaged in forestry. Prerequisite: Forestry 277 or consent of the instructor. 3 s.h. (w)

MR. STOLTENBERG

281. **FOREST MANAGEMENT.**—Principles of organizing forest properties for systematic management; use of data obtained in surveys and inventories; principles of forest regulation, including a study of normal and actual forests, rotations, cutting cycles, and methods of regulating the cut in even-aged and all-aged forests for sustained yield; introduction to the preparation of preliminary forest management plans. Prerequisites: Forestry S150, S151, or equivalents. 3 s.h. (w)

MR. CHAIKEN

211A. TO 282A. **SPECIAL STUDIES IN FORESTRY.**—Work on the same level as the foregoing Senior-Graduate courses to meet the needs of individual students. Credits and hours to be arranged.

THE STAFF

FOR GRADUATES

301-302. ADVANCED STUDIES IN FORESTRY.—Credits to be arranged. To meet individual needs of graduate students in the following branches of forestry:

A. SILVICS.—Prerequisites: Forestry 254, 261, and 264 or equivalents.

MR. KORSTIAN

B. FOREST SOILS.—Prerequisite: Forestry 261 or equivalent.

MR. RALSTON

C. SILVICULTURE.—Prerequisites: Forestry 265, 266 and 267 or equivalents.

MR. KORSTIAN

D. FOREST MANAGEMENT.—Prerequisite: Forestry 281 or equivalent.

MR. CHAIKEN

E. FOREST ECONOMICS.—Prerequisite: Forestry 277 or equivalent.

MR. STOLTENBERG

F. PROPERTIES OF WOOD.—Prerequisites: Forestry 259 and 260, or equivalents.

MR. HARRAR

G. FOREST MENSURATION.—Prerequisite: Forestry 252, or equivalent.

MR. SCHUMACHER

H. FOREST ENTOMOLOGY.—Prerequisites: Forestry 231, 232 or equivalents.

MR. ANDERSON

I. FOREST UTILIZATION.—Prerequisite: Forestry 211-212 or equivalent.

MR. WACKERMAN

J. DENDROLOGY.—Prerequisite: Forestry 254 or equivalent.

MR. HARRAR

311. ADVANCED FOREST UTILIZATION.—Analysis of the principles of determining the cost of and return from harvesting and manufacturing timber for various products and other uses of forests; study of factors governing the relation of tree size to net stumpage values; and the application of these principles and methods in the solution of actual case problems. Prerequisites: Forestry 211-212 or equivalent. 3 s.h. (w)

MR. WACKERMAN

320. SEMINAR IN SILVICULTURE.—Arranged primarily to give graduates of other schools of forestry special training in the silviculture of the forests of the South. All men taking this course should also register for Forestry 266. Prerequisite: At least on course in silviculture. 3 s.h. (w)

MR. KORSTIAN

322. SOIL CLASSIFICATION AND MAPPING.—Classification of soils as natural bodies. Mapping of soils, land use classes and forest site classes. Ordinarily one week of field study will be made of soils in either the coastal plain or mountains. Prerequisites: Forestry 261. 2 s.h. (w)

MR. RALSTON

323-324. ADVANCED FOREST PATHOLOGY.—Advanced study and research on life histories and control of diseases of forest trees to meet individual needs of graduate students. Prerequisites: plant physiology and forest pathology. Credits to be arranged.

MR. JOHNSON

326. ADVANCED FOREST SOILS.—Interrelations of the physical, chemical, and biological characteristics of forest and range soils. Prerequisites: analytical chemistry and Forestry 261. 3 s.h. (w)

MR. RALSTON

342. ADVANCED FOREST MANAGEMENT.—Examination and analysis of techniques employed in the management of industrial and public forests, particularly in the South; discussion of problems of large scale intensive forest management. One week is spent in field study in the South Atlantic Coastal Plain. Prerequisites: Forestry 267, 279, and 281 or equivalents. 2 s.h. (w)

MR. CHAIKEN

351-352. ADVANCED PHYSIOLOGY OF FOREST TREES.—Advanced study and research on problems in physiology of forest trees to meet individual needs of graduate students. Prerequisites: plant physiology and plant ecology and silvics. Credits to be arranged.

MR. KRAMER

356. SEMINAR IN FOREST ECONOMICS.—Examination and discussion of the application of economic concepts in forestry, the potential contribution of economic analysis to private and public forest management; current research in forest economics. Prerequisites: Forestry 277 and 279 or consent of the instructor; advanced courses in economics and economic theory are desirable. 2 s.h. (w)

MR. STOLTENBERG

357-358. RESEARCH IN FORESTRY.—Credits to be arranged. Students who have had adequate training may do research under direction of members of the Faculty in the branches of forestry indicated under courses 301-302 with the same prerequisites as thereunder noted. Each branch to bear the same letter designation as under Courses 301-302.

Enrollment 1954-1955



- ‡ Barefoot, Aldos Cortez, Jr. (B.S., N. C. State College; M.W.T., N. C. State College), Raleigh, N. C.
- * Bengtson, George Wesley (B.S., Louisiana State University), Winnsboro, La.
- ‡ Bilan, Mykyta Victor (University of Lemberg; Diploma in Forestry, University of Munich; M.F., Duke University), Durham, N. C.
- ‡ Briscoe, Charles Buford (B.S., Louisiana State University; M.F., Louisiana State University), Harlingen, Texas.
- * Brooks, David Emerson (B.S., University of Massachusetts), Waltham, Mass.
- † French, Wayne Eugene (B.S., University of Vermont), Kennett Square, Pa.
- * Glass, Thomas David (B.S.F., University of Michigan), Euclid, Ohio.
- † Goforth, Marcus Herndon (Duke University), Charlotte, N. C.
- * Haeussler, Frederick William (B.S.F., University of Georgia), Cincinnati, Ohio.
- † Harley, Wofford Julian, Jr. (B.S., North Georgia College), Sparta, Georgia.
- † Heeren, Robert Dralle (B.S., Rutgers University), New Brunswick, N. J.
- † Hitchings, Robert Grant (B.S., State University of New York, College of Forestry), Raleigh, N. C.
- ‡ Hocker, Harold Willetts, Jr. (B.S., Pennsylvania State University; M.F., N. C. State College), Harrisburg, Pa.
- † Hudson, Marks Daughtry (Duke University), Jacksonville, N. C.
- * Jeffries, Andrew Ray (B.S., Virginia Polytechnic Institute), Bluefield, Va.
- † Jiles, Robert Algin, Jr. (B.S., Louisiana Polytechnic Institute), Ruston, La.
- ‡ Knight, Fred Barrows (B.S.F., University of Maine; M.F., Duke University), Waterville, Maine.
- * Kulman, Herbert Marvin (B.S., Pennsylvania State University), Sayre, Pa.
- * Landgraf, Amel Edward, Jr. (B.S., Colorado A. & M. College), Garden City, Kansas.
- ‡ Lynch, Donald Walton (B.S.F., Montana State University; M.F., Duke University), Spokane, Wash.
- * Marty, Robert Joseph (B.S., Michigan State College), Evanston, Ill.
- * Miller, William Frank, Jr. (B.S., Pennsylvania State University), New Freedom, Pa.
- * Mohyla, Oleksa (Dip. Eng.-Forester, Ukrainian Technical Husbandry Institute), Newark, N. J.
- * Olinger, Harold Lawson (B.S., Franklin and Marshall College), Kutztown, Pa.
- * Piirvee, Raimund (B.S.F., University of Toronto), Maniwaki, P. Q., Canada.
- * Ritter, Marion Whitney (B.S., Clemson Agricultural College), Hickory, N. C.
- * Roberts, Alan Ross (B.S.F., University of Stellenbosch), Pretoria, South Africa.
- * Scher, Theodore Gould (B.S.F., University of Michigan), Brimley, Michigan.
- * Thigpen, Doyle (B.S., Louisiana State University; M.S., Louisiana State University), Franklinton, La.
- ‡ Troxell, Harry Emerson, Jr. (B.S., Duke University; M.F., Duke University), Fort Collins, Col.
- * Whitaker, Harold Fuller (B.S., Duke University), Durham, N. C.
- * White, Fred Myerle, III (B.S., University of the South), Memphis, Tenn.
- * Worst, Raymond Henry (B.S., Virginia Polytechnic Institute), Hampton, Va.

Students in Summer Session Only, 1954

- ‡ Aulbach, John J. (B.S.F., University of Michigan; M.F., University of Michigan), Blacksburg, Va.
- Brocard, Norman George (B.S., Rutgers University), Nixon, N. J.
- McRoy, William David, Jr. (B.S., Duke University), Hillsboro, N. C.
- Nipper, Louis P. (N. C. State College), Raleigh, N. C.
- * Zimmerman, James Dillard (A.B., Lynchburg College), Boydton, Va.

* Registered for Master of Forestry Degree, 1955.

† Registered for Master of Forestry Degree, 1956.

‡ Registered for Doctor of Forestry Degree.

Institutions Represented

Clemson Agricultural College.....	1	Ukrainian Technical Husbandry Institute	1
Colorado A. & M. College	1	University of Georgia	1
Duke University	8	University of Lemberg	1
Franklin and Marshall College	1	University of Maine	1
Louisiana Polytechnic Institute	1	University of Massachusetts	1
Louisiana State University	3	University of Michigan	3
Lynchburg College	1	University of Munich	1
Michigan State College	1	University of the South	1
Montana State University	1	University of Stellenbosch	1
North Carolina State College	3	University of Toronto	1
North Georgia College	1	University of Vermont	1
Pennsylvania State University	3	Virginia Polytechnic Institute	2
Rutgers University	2	Total Institutions	26
State University of New York, College of Forestry	1		

Geographical Distribution

UNITED STATES

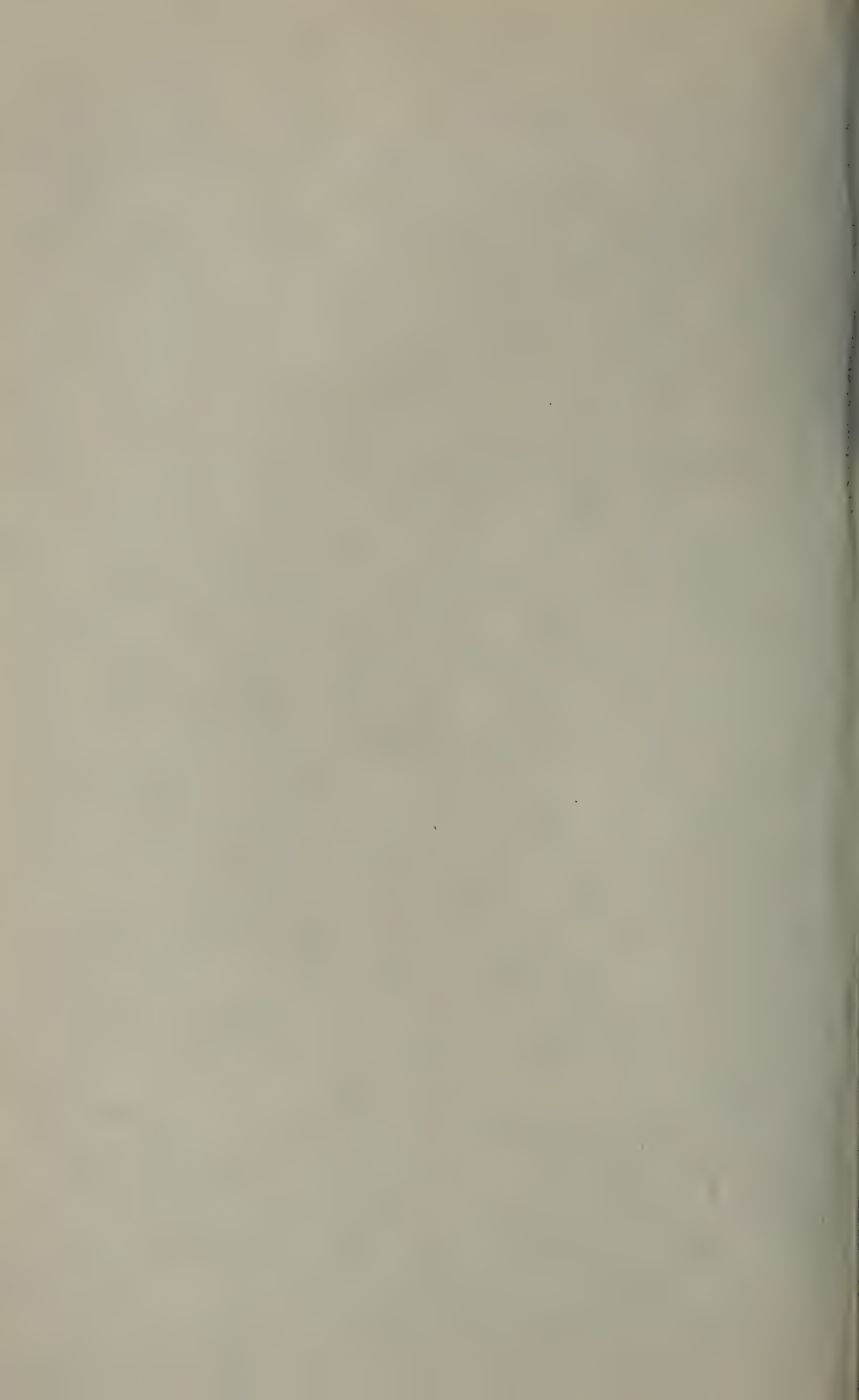
Colorado	1	North Carolina	9
Georgia	1	Ohio	2
Illinois	1	Pennsylvania	5
Kansas	1	Tennessee	1
Louisiana	3	Texas	1
Maine	1	Virginia	4
Massachusetts	1	Washington	1
Michigan	1	Total States	16
New Jersey	3		

FOREIGN COUNTRIES

Canada	1	South Africa	1
		Total	2

General Summary

Students in the School of Forestry	33
Students in the Summer Session Only	5
Total Enrollment	38
Total number of institutions represented	26
Total number of states represented	16
Total number of foreign countries represented	2



BULLETIN OF DUKE UNIVERSITY



The Summer Session 1955

First Term: June 14 to July 23

Second Term: July 26 to August 31

Annual Bulletins

For GENERAL BULLETIN of Duke University, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF UNDERGRADUATE INSTRUCTION, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF THE COLLEGE OF ENGINEERING, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF THE GRADUATE SCHOOL OF ARTS AND SCIENCES, apply to *The Dean of the Graduate School*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF FORESTRY, apply to *The Dean of the School of Forestry*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF LAW, apply to *The Dean of the School of Law*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF MEDICINE, apply to *The Dean of the School of Medicine*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF NURSING, apply to *The Dean of the School of Nursing*, Duke University, Durham, N. C.

For BULLETIN OF THE DIVINITY SCHOOL, apply to *The Dean of the Divinity School*, Duke University, Durham, N. C.

For BULLETIN OF THE SUMMER SESSION, apply to *The Director of the Summer Session*, Duke University, Durham, N. C.

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BULLETIN
OF
DUKE UNIVERSITY



The Summer Session 1955

ANNOUNCEMENTS

First Term: June 14 to July 23
Second Term: July 26 to August 31

DURHAM, NORTH CAROLINA
1955



The Chapel Tower

(from an etching by Louis Orr)

The Chapel Tower dominates the scene of West, or the University, Campus, and it symbolizes the spiritual heritage of the University. The predominantly Gothic architecture, traditionally restless and aspiring, contributes to the intellectually stimulating atmosphere of the University and provides an appropriate setting for educational endeavors.

Calendar of the Summer Session 1955



MAY	JUNE	JULY	AUGUST
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

June 7-10, Tuesday-Friday
Christian Convocation of 1955.

June 13, Monday, 9:00 a.m.
Dormitory rooms ready for occupancy.

June 14, Tuesday
Registration for First Term.

June 15, Wednesday
Instruction begins in all 6-week courses of the First Term.

June 16-17, Thursday-Friday
Conference on Elementary Education-Arithmetic.

June 17-18, Friday-Saturday
Conference on Research in Income and Wealth.

June 18, Saturday
Not a holiday. All classes meet.

June 21, Tuesday
Instruction begins in Physics S51.

June 21-22, Tuesday-Wednesday
Regional Conference on School Law.

June 28, Tuesday
Instruction begins in all 4-week courses of the First Term in Chemistry, Geology, and Zoology.

July 4, Monday
Holiday. No classes meet.

July 8, Friday (4:00 p.m. in Room 114, Physics Building)
Graduate reading examinations in Romance Languages. Applicants for these examinations must register in the Graduate School Office not later than July 1.

July 13, Wednesday
Final date for filing with the Dean of the Graduate School statement of intention to complete Master's degree requirements during the First Term, and for filing title of Master's thesis.

July 19-August 5, Tuesday-Friday
School for Approved Supply Pastors.

- July 22-23, Friday-Saturday
Final Examinations for the First Term.
- July 26, Tuesday
Registration for the Second Term.
- July 27, Wednesday
Instruction begins in all Second Term courses.
- July 30, Saturday
Not a holiday. All classes meet.
- August 1, Monday
Final date for filing with the Dean of the Graduate School statement of intention to complete Master's degree requirements during the Second Term, and for filing title of Master's thesis.
- August 4-6, Thursday-Saturday
Conference of the North Carolina English Teachers Association.
- August 6, Saturday
Not a holiday. All classes meet.
- August 15-19, Monday-Friday
Conference of the Youth Council of the Methodist Youth Fellowship.
- August 19, Friday
Final examinations in all 4-week courses of the Second Term in Chemistry, Geology, and Zoology.
- August 25, Thursday
Final examinations in Physics S52.
- August 22-26, Monday-Friday
Conference of the School of Missions Committee of the Woman's Society of Christian Service of the North Carolina Conference of the Methodist Church.
- August 30-31, Tuesday-Wednesday
Final examinations in all 6-week courses in the Second Term.
- September 5-15, Monday-Thursday
Special course in Solid Geometry.

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Administrative Officers of the Summer Session



ARTHUR HOLLIS EDENS, PH.D., LL.D.
President of Duke University

PAUL MAGNUS GROSS, PH.D.
Vice-President in the Division of Education

CHARLES EDWARD JORDAN, A.B., LL.D.
Vice-President in the Division of Public Relations

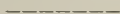
HERBERT JAMES HERRING, A.M., LL.D.
Vice-President in the Division of Student Life

ALFRED SMITH BROWER, A.B.
Business Manager and Comptroller

CHARLES BLACKWELL MARKHAM, A.M.
Treasurer of the University

PAUL HIBBERT CLYDE, PH.D.
Director of the Summer Session

RICHARD LOVEJOY TUTHILL, ED.D.
University Registrar



ROBERTA FLORENCE BRINKLEY, PH.D.
Dean of the Woman's College

JAMES CANNON, TH.M., D.D.
Dean of the Divinity School

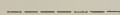
HERBERT JAMES HERRING, A. M., LL.D.
Dean of Trinity College

MARCUS EDWIN HOBBS, PH.D.
Dean of the Graduate School of Arts and Sciences

CLARENCE FERDINAND KORSTIAN, PH.D.
Dean of the School of Forestry

ALAN KREBS MANCHESTER, PH.D.
Dean of Undergraduate Studies

WALTER JAMES SEELEY, M.S.
Dean of the College of Engineering



WILLIAM COUNCILL ARCHIE, PH.D.
Associate Dean of Trinity College

CAZLYN GREEN BOOKHOUT, PH.D.
Director of the Duke Marine Laboratory

SUSAN A. CLAY, A.M.
Acting Associate Dean of Academic Instruction, The Woman's College

DUKE UNIVERSITY

ROBERT B. COX, A.M.

Dean of Undergraduate Men

GIFFORD DAVIS, PH.D.

Director of the School of Spanish Studies

EARL THOMAS HANSON, PH.D.

Director of Admissions, Graduate School of Arts and Sciences

ELLEN HARRIS HUCKABEE, A.M.

Dean of Undergraduate Instruction, The Woman's College

MARIANNA DUNCAN JENKINS, PH.D.

*Associate Dean of Undergraduate Instruction, The Woman's College
(On Leave)*

CHARLES BUCHANAN JOHNSON, A.M.

Assistant to the Director, The Summer Session

MRS. ELIZABETH ANDERSON PERSONS, A.M.

Director of Admissions, The Woman's College

OLAN LEE PETTY, PH.D.

Assistant Director, The Summer Session

EVERETT BROADUS WEATHERSPOON, A.B.

*Director of Admissions, Trinity College and the
College of Engineering*

MARY GRACE WILSON, A.M.

Dean of Undergraduate Women

The Summer Session Faculty



- | | |
|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| THOMAS MALCOLM AYCOCK, M.A.
<i>Professor of Physical Education</i> | LEILA R. CLARK, R.N., M.A.
<i>Professor of Nursing Service</i> |
| JOSEPH RANDLE BAILEY, PH.D.
<i>Assistant Professor of Zoology</i> | ROBERT MERLE COLVER, Ed.D.
<i>Assistant Professor of Education</i> |
| NORMAN H. BARLOW, B.A.
<i>Fellow in Romance Languages</i> | GIFFORD DAVIS, PH.D.
<i>Professor of Romance Languages</i> |
| JAMES FOSTER BARNES, M.A.
<i>Lecturer in Church Music</i> | ALEXANDER DECONDE, PH.D.
<i>Assistant Professor of History</i> |
| ROY O. BILLET, PH.D.
<i>Visiting Professor of Education
Boston University</i> | DONALD J. DEWEY, M.A.
<i>Assistant Professor of Economics</i> |
| MARTIN LEE BLACK, JR., M.B.A., C.P.A.
<i>Professor of Accounting</i> | RUSSELL LESLIE DICKS, B.D., D.D., D.LITT.
<i>Associate Professor of Pastoral Care
and Chaplain at Duke Hospital</i> |
| EDWARD CLAUDE BOLMEIER, PH.D.
<i>Professor of Education</i> | IRWIN A. ECKHAUSER, Ed.D.
<i>Visiting Lecturer in Education
Director of Audio-Visual Education of
Public Schools of Mount Vernon, N. Y.</i> |
| CAZLYN GREEN BOOKHOUT, PH.D.
<i>Associate Professor of Zoology</i> | FRANK NICHOLAS EGERTON, A.M., E.E.
<i>Associate Professor of Electrical
Engineering</i> |
| LLOYD J. BORSTELMANN, PH.D.
<i>Assistant Professor of Psychology</i> | WILLIAM WHITFIELD ELLIOTT, PH.D.
<i>Professor of Mathematics</i> |
| FRANCIS EZRA BOWMAN, PH.D.
<i>Associate Professor of English</i> | JOHN MORTON FEIN, PH.D.
<i>Assistant Professor of Romance
Languages</i> |
| CHARLES KILGO BRADSHAW, PH.D.
<i>Associate Professor of Chemistry</i> | ARTHUR BOWLES FERGUSON, PH.D.
<i>Associate Professor of History</i> |
| RALPH J. D. BRAIBANTI, PH.D.
<i>Associate Professor of Political Science</i> | ANDREW DURWOOD FOSTER, B.D.
<i>Assistant Professor of the History and
Philosophy of Religion</i> |
| ELMER L. BROOKS, PH.D.
<i>Instructor in English</i> | CHARLES DARBY FULTON, JR., Sc.D.
<i>Assistant Professor of Mechanical
Engineering</i> |
| FRANCES CAMPBELL BROWN, PH.D.
<i>Associate Professor of Chemistry</i> | NORMAN GARMEZY, PH.D.
<i>Associate Professor of Psychology</i> |
| ROGER CONANT BUCK, B.A., B.Phil.
(Oxon.)
<i>Assistant Professor of Philosophy</i> | W. SCOTT GEHMAN, PH.D.
<i>Assistant Professor of Education</i> |
| LOUIS J. BUDD, PH.D.
<i>Assistant Professor of English</i> | ALLAN H. GILBERT, PH.D.
<i>Professor of English</i> |
| LEONARD CARLITZ, PH.D.
<i>Professor of Mathematics</i> | CLARENCE GOHDES, PH.D.
<i>Professor of English</i> |
| DAVID WILLIAMS CARPENTER, PH.D.
<i>Professor of Physics</i> | RICHARD BABSON GRANT, PH.D.
<i>Instructor in Romance Languages</i> |
| ALLAN MURRAY CARTTER, PH.D.
<i>Assistant Professor of Economics</i> | IRVING EMERY GRAY, PH.D.
<i>Professor of Zoology</i> |
| LEON EDWARD CHAIKEN, M.F.
<i>Associate Professor of Forest Manage-
ment and Assistant Director of the
Forest</i> | HUGH MARSHALL HALL, PH.D.
<i>Instructor in Political Science</i> |
| BENJAMIN GUY CHILDS, M.A.
<i>Professor of Education</i> | |

- WILLIAM BASKERVILLE HAMILTON, PH.D.
Professor of History
- ELLWOOD SCOTT HARRAR, PH.D.
Professor of Wood Technology
- HORNELL NORRIS HART, PH.D.
Professor of Sociology
- STEPHEN DUNCAN HERON, JR., M.S.
Assistant Professor of Geology
- HAROLD J. HUMM, PH.D.
Associate Professor of Botany
- DON DOUGAN HUMPHREY, PH.D.
Professor of Economics
- THELMA M. INGLES, R.N., M.A.
Assistant Professor of Nursing Education and Director, Division of Nursing Education
- ANNE MADELINE JACOBANSKY, R.N.,
B.S.N.E., M.ÉD.
Assistant Professor of Nursing in Charge of Nursing Education
- FREDERICK CHARLES JOERG, M.B.A.
Associate Professor of Economics
- VAN LESLIE KENYON, JR., M.M.E.
Associate Professor of Mechanical Engineering
- GREGORY A. KIMBLE, PH.D.
Associate Professor of Psychology
- CREIGHTON LACY, PH.D.
Assistant Professor of Missions and Social Ethics
- CHARLES EARL LANDON, PH.D.
Professor of Economics
- JUAN LÓPEZ-MORILLAS
Visiting Professor of Romance Languages, Brown University
- LIONEL WILFRED MCKENZIE, JR., B.LITT.
(OXON), M.A.
Associate Professor of Economics
- JONATHAN COLLINS MCLENDON, PH.D.
Associate Professor of Education
- JOHN MCCLELLAN MAJOR, PH.D.
Instructor in English
- CLYDE LEONARD MANSCHRECK, PH.D.
Assistant Professor of Undergraduate Religion
- ROBERT JOHN MONTFORT, B.A.
Assistant Professor of Physical Education
- HIRAM EARL MYERS, S.T.M., D.D.
Professor of Biblical Literature
- GEORGE W. NACE, PH.D.
Assistant Professor of Zoology
- ROBERT TAPPAN OSBORN, B.D.
Instructor in Undergraduate Religion
- AUBREY EDWIN PALMER, B.S. IN E., C.E.
Associate Professor of Civil Engineering
- HAROLD TALBOT PARKER, PH.D.
Associate Professor of History
- OLAN LEE PETTY, PH.D.
Assistant Professor of Education
- JAMES HENRY PHILLIPS, PH.D.
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Professor of Romance Languages
- JAMES LIGON PRICE, PH.D.
Assistant Professor of Undergraduate Religion
- JOSEPHINE RAPPAPORT, R.N., M.A.
Assistant Professor of Nursing Education
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Instructor in English
- THOMAS D. REYNOLDS, PH.D.
Assistant Professor of Education
- McMURRY SMITH RICHEY, PH.D.
Assistant Professor of the Philosophy of Christian Education
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Professor of Mathematics
- THEODORE ROPP, PH.D.
Associate Professor of History
- JESSE LEE ROSE, PH.D.
Associate Professor of Latin and Greek
- MABEL F. RUDISILL, PH.D.
Associate Professor of Education
- JOHN HENRY SAYLOR, PH.D.
Professor of Chemistry
- FRANCIS XAVIER SCHUMACHER, B.S.
Professor of Forestry
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Assistant Professor of English
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LITT.D.
James B. Duke Professor of American Religious Thought
- ROBERT SIDNEY SMITH, PH.D.
Professor of Economics
- HARRY R. STEVENS, PH.D.
Assistant Professor of History
- WILLIAM FRANKLIN STINESPRING, PH.D.
Professor of Old Testament
- HOWARD AUSTIN STROBEL, PH.D.
Assistant Professor of Chemistry

WIPPERT ARNOT STUMPE, PH.D.
Associate Professor of Education

KENNETH JOHN THARP, B.S. IN C.E.
Instructor in Civil Engineering

JOSEPH MILLER THOMAS, PH.D.
Professor of Mathematics

EDGAR TRISTRAM THOMPSON, PH.D.
Professor of Sociology

KATHARINE TILLEY, B.S. IN N.ED.
Instructor in Psychiatric Nursing

ELIAS TORRE, M.A.
*Assistant Professor of Romance
Languages*

JAMES NARDIN TRUESDALE, PH.D.
Associate Professor of Greek

ARLIN TURNER, PH.D.
Professor of English

F. JOHN VERNBERG, PH.D.
Assistant Professor of Zoology

PATRICK R. VINCENT, PH.D.
*Assistant Professor of Romance
Languages*

CHARLES EUGENE WARD, PH.D.
Professor of English

RICHARD LYNNESS WATSON, JR., PH.D.
Associate Professor of History

HENRY WEITZ, ED.D.
Associate Professor of Education

PAUL WELSH, PH.D.
Assistant Professor of Philosophy

MRS. EUGENIA REMELIN WHITRIDGE, PH.D.
Assistant Professor of Sociology

KARL MILTON WILBUR, PH.D.
Professor of Zoology

PELHAM WILDER, JR., PH.D.
Assistant Professor of Chemistry

FREDERICK ELIPHAZ WILSON, A.M.
Associate Professor of German

HALINA ZUKOWSKI, R.N., B.S., M.L.
*Assistant Professor of Psychiatric
Nursing*

To Former Students and to Prospective Students of the Summer Session

The Summer Session at Duke University makes available to Duke students, to students from other universities and colleges, to teachers in elementary and secondary schools, and to other special students a notable program of instruction in many fields of knowledge, both academic and professional.

Course programs offered during the summer are designed to meet special and particular needs as well as the more conventional requirements leading to specific degrees.

Undergraduates of Duke University who desire to accelerate their programs may complete the work for a degree in three years by attending two and one-half Summer Sessions.

Graduates of accredited high schools, both men and women, who have been admitted to the freshman class of Duke University may begin their work in the Summer Session.

Undergraduates from other colleges and universities may enjoy the special advantages of summer instruction at Duke and transfer earned credits to their own institutions.

Graduate students who have been admitted to the Graduate School to study for the Master of Arts, Master of Education, and Master of Arts in Teaching degrees will find courses arranged in sequence from summer to summer to meet their requirements.

Teachers from elementary and secondary schools who desire to earn credits toward the renewal of their certificates and who are interested in further teacher training in subject content and method may enroll in senior-graduate courses as special or unclassified students.

While the summer course program meets in many departments the needs of degree candidates, it goes beyond these limits in presenting also courses of wide general interest and, in addition, special non-credit lectures, concerts, plays, conferences, institutes, and workshops.

Duke University's ample and modern research facilities will be available during the summer to all properly qualified students. It is the hope of the University, of the summer faculty, and of the administrative officers that former students and new students will find increasing values in each summer spent at Duke.

THE DIRECTOR.

Admission



THE general requirement for admission to the Summer Session is graduation from an accredited secondary school or its equivalent. Rejection of a student's application for admission to one of the University's Colleges or Schools does not preclude admission of that student to the Summer Session as a special or unclassified student.

Admission to specific courses offered in the Summer Session is governed by the student's academic status (freshman, sophomore, junior, senior, graduate, special or unclassified) and by the prerequisites of the course in question.

Students in Residence at Duke University during the Spring Semester 1955

A Duke University student, either graduate or undergraduate, who plans to attend the Summer Session should pre-enroll with the dean of his college or school (see p. 20 for specific dates). He need *not* file with the Summer Session the application blank at the end of this *Bulletin*.

Students Not in Residence at Duke University during the Spring Semester 1955

UNDERGRADUATES. New students seeking to enter Duke University as freshmen or as undergraduates with advanced standing, and undergraduates who wish to re-enter the University should write the office of Admissions requesting regular application forms.

Undergraduates, both men and women, enrolled in other colleges and universities who desire to earn in the Duke University Summer Session credits which are to be transferred to their own institutions should apply directly to the Director of the Summer Session, Duke University, on the application form at the end of this *Bulletin*. They should give accurately and clearly all information called for on the application form.

GRADUATES. Students with graduate standing and teachers in service with or without the Bachelor's degree who wish to earn credits toward the renewal or the advancement of their certificate and who

do not wish to become candidates for a degree at Duke University should apply to the Director of the Summer Session on the application form at the end of this *Bulletin*.

Graduate students who are seeking admission to the Graduate School of Arts and Sciences and those who have been admitted to the Graduate School must apply to the Director of the Summer Session on the application form at the end of this *Bulletin*. Those who are seeking admission to the Graduate School *must also file* Graduate School application forms which may be secured by writing to the Dean of the Graduate School, Duke University, Durham, North Carolina.

Admission to Degree Candidacy

Credits earned during the Summer Session may be applied toward the requirements of a degree.

UNDERGRADUATES. A student seeking to enroll as a candidate for the Bachelor's degree from one of the colleges of Duke University must meet the entrance requirements set forth in the *Bulletin of Undergraduate Instruction*. This *Bulletin* may be secured by writing the Office of Admissions, Duke University.

GRADUATES. A student seeking to enroll as a candidate for one of the advanced degrees offered by the Graduate School of Arts and Sciences of Duke University must meet the requirements set forth on pages 32-38 of this *Bulletin*.

Admission of Veterans

All veterans who plan to attend Duke University for the first time during the Summer Session of 1955 should have a Certificate for Education and Training or a Certificate of Eligibility and Entitlement ready to present at the time of registration. This form may be secured by applying to the Veterans Administration. In the event a student has previously been enrolled under the G. I. Bill of Rights and his last enrollment was at Duke University no Certificate is necessary. School teachers who attended the '54 Session and are planning to return this year should have a letter from their immediate superior attesting to the fact that they taught during the school year 1954-55 giving both the beginning and ending dates of the term. Any correspondence should be addressed to: The Veterans' Office, Allen Building, Duke University, Durham, N. C.

Financial Information, Living Accommodations, and Medical Care



Fees

The University Fee:

Covering registration, tuition, and medical care.....	\$12.00 per semester hour
Teachers in full-time service in Elementary and Secondary Schools.....	6.00 per semester hour
Registered Nurses enrolled in Nursing Education courses	6.00 per semester hour

Laboratory Fees: (These where applicable are in addition to the University Fee.)

The School of Spanish Studies.....	\$15.00
Marine Laboratory.....	10.00

Fees Replacing University Fee:

Medical Mycology	\$50.00
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Master's Degree Summer Session Fee:

- A candidate for the Master's degree who completes in the Summer Session 15 or more semester hours required for the degree and who finishes the work in the Summer Session pays a degree fee of.....\$25.00
- A Master's degree candidate who is not required to pay the fee under Item 1 above, but who takes a thesis examination during the Summer Session, is required to pay a degree fee of.....\$10.00
- A Master's degree candidate who, in the fall or spring semesters, completes 15 or more semester hours required for the degree and who finishes the work in the Summer Session without a thesis examination is not required to pay the degree fee.

Auditing Fees (See p. 22 for definition):

1. Students registered for a full course program may audit non-laboratory courses (with the permission of the Director) at no extra charge.
2. Students carrying less than a full course program may be granted permission to audit a course or courses on payment of half the University fee per semester hour audited.....\$6.00 per s.h.

Late Registration Fee:

Students who fail to register prior to the first class day of a given course will pay an extra fee of.....	5.00
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Fee for Course Changes:

Course changes other than those required by the University will be made only on payment of an extra fee of.....	1.00
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Fee for Make-up Final Examination:.....	3.00
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Refund of Fees:

- a. When applications for withdrawal are received by the Director of the Summer Session before the close of registration on registration day, full fees will be refunded.
- b. When applications for withdrawal are received by the Director of the Summer Session during the first four class days of a given term 80 per cent of the fees will be refunded.
- c. When applications for withdrawal are received by the Director of the Summer Session after the fourth class day there will be no refund of fees.

Student Aid

HALF-FEES TO TEACHERS AND REGISTERED NURSES: Teachers in full-time service in elementary and in secondary schools and registered nurses enrolled in Nursing Education courses are given a rebate of one-half the University fee. Teachers on leave of absence from their schools and teachers not currently employed are not eligible for this rebate.

SCHOLARSHIPS FOR PUBLIC SCHOOL TEACHERS: Duke University will award a minimum of thirty special scholarships of \$100.00 each to high school and elementary teachers on a competitive basis (not by a written examination) for the Summer Session of 1955. This scholarship program is designed to encourage teachers to begin or to continue their graduate studies leading to the A.M., M.Ed., or M.A. in Teaching degree.

Although successful applicants will not be required to become candidates for a degree, they must qualify for and receive admission to the Graduate School of Arts and Sciences.

All applications with supporting documents must be submitted by April 1, 1955. Selection and appointment of scholars will be completed by May 1, 1955.

Application blanks and complete information may be obtained from the Director of the Summer Session, Duke University, Durham, North Carolina.

LOANS: A number of loan funds have been established for the benefit of the students of Duke University. Several of these funds are available to students enrolled in the Summer Session. These funds are administered through a committee of officers of the University.

The committee, in approving loans, selects those students who from the standpoint of character, scholastic attainment, and degree of financial need are deserving of consideration.

The following regulations govern the operation of the Summer Session loan fund program:

1. No loan shall be made to a student who violates any of the regulations of the University or whose academic record is not satisfactory to the faculty.

2. All loans must be arranged for not later than one week after the beginning of a term.

3. Every applicant for a loan must give the names of two references who will be contacted by the Student Loan Office. Statements from these references must have been received and made a part of the borrower's file before any money will be advanced. Neither of these references may be a member of a borrower's family.

4. No loan will be made to defray any expenses other than those incurred during the Summer Session for the University fee.

5. All loans must be repaid within six months following the close of the Summer Session in which the loan is made.

6. Simple interest at the rate of six per cent annually shall be charged for all loans made during a summer session.

7. Applicants for loans should make application to the Loan Committee, Office of the Secretary, Duke University. A formal application for loan assistance may be made only on forms furnished in the Secretary's Office during the first week of each term. The granting or withholding of a loan is a matter entirely within the discretion of the Loan Committee. A student is expected to use all other possible means of securing financial assistance before applying for aid from a loan fund.

Dormitory Accommodations

The dormitory facilities of Duke University West Campus will be used for the 1955 Summer Session except in the case of the Marine Laboratory. The Men's Graduate Center will be used for graduate men who are regular residents of the Men's Graduate Center. However, dining halls in Men's Graduate Center will not be open during the Summer Session. An area in Few Quadrangle will be available to graduate men enrolled in the Summer Session only. An area in Craven Quadrangle and Few Quadrangle will be available to undergraduate men. Kilgo Quadrangle will be available for women with designated houses reserved for graduate women and undergraduate women. Epworth Hall, on the Woman's College Campus, will be available to graduate women who are residents of Epworth Hall, also Epworth Hall will be available to graduate women who plan to attend the twelve weeks' term of the Summer Session. The University does not provide living accommodations in which married couples might live.

Most rooms are furnished for two persons. Only a limited number of rooms are furnished as singles for one person. Furniture consists of single beds, 39" x 74", with mattresses, an individual clothes closet for each person, a chest of drawers for two persons, a study table, chairs, bookcase, waste basket, and window shades. Linens, blankets, towels, and pillows are not furnished by the University.

The School of Spanish Studies will be housed in Craven Quadrangle, which will offer segregated housing and other facilities desired for the School of Spanish Studies.

The Marine Laboratory is located on Pivers Island adjoining the United States Bureau of Fisheries across the Newport River from Beaufort, North Carolina. Three cottage-type dormitories are avail-

able with a separate building for dining hall and social activity. All rooms in the Marine Laboratory dormitories are equipped for two persons.

Dormitory Rooms—Rates

Single Room	12 weeks' term.....	\$60.00	
	6 weeks' term.....	30.00	
	5 weeks' term.....	25.00	
	4 weeks' term.....	20.00	
	3 weeks' term.....	15.00	
	2 weeks' term.....	10.00	
	1 week's term.....	5.00	
Double Room	12 weeks' term.....	\$84.00	\$42.00 each person
	6 weeks' term.....	42.00	21.00 each person
	5 weeks' term.....	35.00	17.50 each person
	4 weeks' term.....	28.00	14.00 each person
	3 weeks' term.....	21.00	10.50 each person
	2 weeks' term.....	14.00	7.00 each person
	1 week's term.....	7.00	3.50 each person
Double Room Furnished as a Single Room and Occupied by One Person.....			
	12 weeks' term.....	\$80.00	
	6 weeks' term.....	40.00	
	5 weeks' term.....	33.35	
	4 weeks' term.....	26.70	
	3 weeks' term.....	20.00	
	2 weeks' term.....	13.35	
	1 week's term.....	6.70	

Applications for room reservations accompanied by the full amount of the room rent for the term concerned should be made to Duke University Housing Bureau, Duke Station, Durham, North Carolina. Rooms will be reserved in the order in which applications are received. Notification of assignments to rooms will be made about May 15 for the first term; about July 10 for the second term.

Rooms are available to applicants twenty-four hours prior to the registration for a specific term of the Summer Session. A room is to be vacated by the occupant within twenty-four hours after the last final examination. Any period of occupancy other than for a specific term of the Summer Session must be arranged for at the Office of the Housing Bureau, 03 Allen Building.

Applicants should be sure to express their preference as to roommates, if they have a preference. If no preference of roommate is expressed, the Housing Bureau will assign a roommate; however, the Office does not assume responsibility in this matter.

Estimated Cost of a Six-Week Term:

University Fee, 6 s.h.....	\$ 72.00
Teachers (elementary and secondary) in full-time service, and Registered Nurses in nursing education courses, \$36.00	
Dormitory Rooms (2 occupants, \$21.00 per person).....	21.00
Meals (Cafeteria selective; average per day \$2.00).....	80.00

Books and Class Materials \$7.00 to \$10.00.....	8.50
Miscellaneous (laundry, etc.).....	12.00
Total (elementary and secondary teachers in full-time service and Registered Nurses in nursing education courses deduct \$36.00).....	\$193.50

Medical Care

With the exceptions noted below, full medical and surgical care is furnished to all regularly matriculated students of the University during the Summer Session at no additional cost to them beyond the University fee for each six-week term of residence, or any shorter period. This service is under the direction of the University Physician with the cooperation of the staff of Duke Hospital. It includes hospitalization for a maximum period of six days, medical and surgical care, drugs, dressings, X-ray work, and ward, but not special nursing. Refraction of eyes, treatment of teeth and of all chronic and pre-existing conditions, such as diseased tonsils, hernias, elective surgery, chronic skin conditions, endocrine disturbances, etc., or accidents or illness occurring during vacations or while off the campus, are not included in this service. The cost of braces and necessary orthopaedic appliances and of blood, as well as special nursing, must be borne by the student. A charge for board will be made of the student while he is in the hospital. All necessary telephone and telegraph charges will be borne by the student.

No illness is treated in dormitory or other rooms occupied by students. Students needing treatment for minor medical or surgical conditions have the facilities of the Student Health Office in the Hospital between 9:00 a.m. and 5:30 p.m. on week-days. Emergency room care is available at night and on Saturday afternoons and Sundays. For admission to the hospital, or for X-ray and consultation services, a student *must* present the 1955 Summer Session Health and Recreation Card as evidence that he is matriculated in the Summer Session and entitled to hospitalization. Such a card is not issued to students who register for less than 3 semester hours credit.

Registration



Definition of Terms

REGISTRATION. A student has completed registration for the Summer Session when:

1. His course program has been written and approved by the dean of the school or college in which he is enrolled or by the Director of the Summer Session in the case of the special or unclassified student.

2. Summer Session forms have been completed properly by the student in the Summer Session Office.

3. Summer Session University fees have been paid.

PRE-ENROLLMENT. The term pre-enrollment refers only to the writing of the course program and its approval by the proper deans or by the Director of the Summer Session in the case of the special or unclassified student. *Pre-enrollment alone does not constitute registration.*

General Registration

CLASSES BEGINNING JUNE 15. All Summer Session students whose classes begin on June 15, Term I, who *do not* complete registration in the Summer Session Office, 119 Allen Building, on or before June 7 *must* present themselves at general registration in the new gymnasium on June 14 to register. Students will register during 30-minute periods alphabetically according to *surname* as indicated in the following table.

<i>Time</i>	<i>Registrants (Surname)</i>
9:00- 9:30	N - P
9:30-10:00	Q - R
10:00-10:30	S
10:30-11:00	T - V
11:00-11:30	W - Z
11:30-12:00	A - B
12:00-12:30	C
2:00- 2:30	D - E
2:30- 3:00	F - G
3:00- 3:30	H - J
3:30- 4:00	K - L
4:00- 4:30	Mc - M

CLASSES BEGINNING JUNE 21. All Summer Session students whose classes begin on June 21, Term I, who *do not* complete registration in the Summer Session Office on or before June 18 must register in the Summer Session Office, 119 Allen Building, on June 20.

CLASSES BEGINNING JUNE 28. All Summer Session students whose classes begin on June 28, Term I, who *do not* complete registration in the Summer Session Office on or before June 25 must register in the Summer Session Office, 119 Allen Building, on June 27.

CLASSES BEGINNING JULY 5. All Summer Session students whose classes begin on July 5, Term I, must complete registration in the Summer Session Office on or before July 1.

CLASSES BEGINNING JULY 27. All Summer Session students who wish to register for courses offered during Term II or for research during Term II may register in the Summer Session Office on July 12 through July 21. All students who *do not* register for second term during this period *must* register in the Summer Session Office, 119 Allen Building, on July 26.

CLASSES BEGINNING ON OTHER DATES. All Summer Session students registering for courses beginning on dates other than those specified above must complete registration in the Summer Session Office *before* the date on which their classes begin. *Registration on the day on which classes are scheduled to begin will be considered late registration.*

Late Registration

Any student who fails to register on or before the dates specified in the preceding paragraphs will be charged a fee of \$5.00 for late registration. No student will be permitted to register for a 3 semester hour course after the fourth class day (June 18, Term I; July 30, Term II); a 4 semester hour course after the third class day (June 30, Term I; July 29, Term II); a 5 semester hour course after the third class day (June 23, Term I; July 29, Term II). Changes in courses other than those required by the University will require a payment of \$1.00 for each change made. All changes must be approved by the dean of the school or college in which the student is enrolled or, in the case of the special or unclassified student, by the Director of the Summer Session. These registration rules are enforced rigidly.

Since Summer Session courses present a program of study in more concentrated and rapid form than in the regular semesters, students are advised to register on time and to be present at all class sessions.

*Advance Registration***STUDENTS IN RESIDENCE AT DUKE UNIVERSITY DURING THE SPRING SEMESTER 1955.**

WRITING COURSE PROGRAMS IN THE SCHOOLS AND COLLEGES. Students in residence at Duke University during the Spring Semester 1955, both graduate and undergraduate, who plan to enroll for courses offered in the 1955 Summer Session or to carry on research during the period of the Summer Session will write course programs and have them approved in their respective schools or colleges on the dates specified below:

Trinity College

April 25-April 26—rising seniors

April 27-April 29—rising juniors

May 2-May 4—freshmen and rising sophomores

College of Engineering

April 25—rising seniors

April 27—rising juniors

May 2—rising sophomores

Woman's College

April 25-April 26—rising seniors

April 27-April 29—rising juniors

May 2-May 4—rising sophomores

The School of Nursing

May 5-May 6—all students planning to attend the Summer Session

The Divinity School

May 5-May 6—all students planning to attend the Summer Session

The Graduate School of Arts and Sciences

May 3-May 4—all students planning to attend the Summer Session

ADVANCE REGISTRATION IN THE SUMMER SESSION OFFICE. Students in residence whose course programs have been written and approved by their respective colleges on the dates indicated above may complete their registration in the Summer Session Office, 119 Allen Building, on the following dates:

Graduate students May 3 through May 4

Undergraduate students May 17 through June 7

Registration in the Summer Session Office includes:

1. Completion of various Summer Session forms.
2. Payment of University fees.

A student who registers with the Summer Session Office during this period *will not* be required to be present at general registration on June 14. He will begin his class work on the date his classes are scheduled to begin: June 15, June 21, June 28, or July 5.

STUDENTS NOT IN RESIDENCE AT DUKE UNIVERSITY DURING THE SPRING SEMESTER 1955.

ADVANCE REGISTRATION BY MAIL. Students not in residence at Duke University during the Spring Semester 1955—new undergraduate students seeking to enter as degree candidates, graduate students who are not candidates for an advanced degree at Duke University, graduate and undergraduate students of other colleges and universities desiring to earn credits for transfer, public school teachers and college teachers (not advanced degree candidates)—may register by mail. Advance registration by mail includes:

1. Completion in full of the application form at the end of this *Bulletin*.

2. Admission to the Summer Session by the Director of the Summer Session and, in the case of students seeking to enter Duke University as degree candidates, admission by the dean to the school or college of Duke University concerned.

3. Completion in full and return of forms required by the Summer Session Office by June 7.

4. Payment of University fees by June 7.

A student may *pre-enroll* by mail without paying the University fees, but he *cannot register in advance* without doing so.

Students who complete registration by mail on or before June 7 need not be present at the general registration on June 14.

DEGREE CANDIDATE GRADUATE STUDENTS NOT IN RESIDENCE DURING THE SPRING SEMESTER 1955. All graduate students not in residence during the Spring Semester 1955 who are candidates for an advanced degree in the Graduate School of Arts and Sciences of Duke University *must* present themselves for registration at the gymnasium on June 14. They cannot complete registration by mail because:

1. Their program of study for the summer must be approved by their Director of Graduate Studies.

2. Their course programs must be written and approved by the Graduate School of Arts and Sciences.

These students may pre-enroll by mail with the Summer Session Office and may pay their fees in advance, but they cannot complete their registration.

Academic Regulation



Kinds of Course Enrollment

SUMMER SESSION courses may be taken for "credit" or for "non-credit" or may be "audited." A student's program may be exclusively in one of these categories, or may combine any two of them or all three. Students taking a full or partial program for "credit" may enroll as auditors or as non-credit students in any number of additional courses.

CREDIT. The Summer Session term "credit" does not mean degree credit at Duke University unless the student has been admitted as a degree candidate by one of the colleges or schools of the University. A student taking a course for credit is expected to do all the work required and to take the final examination, and he will receive a grade. G.I. Bill benefits are available only to those veterans who enroll for credit.

NON-CREDIT. "Non-credit" enrollment is available to the student who wishes the privilege of participating in class discussions, exercises, and laboratory assignments but does not wish to take the examinations either mid-term or final. A "non-credit" student may do as much of the work of the course as he desires, but he may not take the final examination and he will not receive a grade. Full fees of \$12 per semester hour are required in "non-credit" enrollment.

AUDIT. An auditor is entitled to listen to lectures and class discussions, but he may not participate in discussions or take examinations. Students may not enroll as auditors in laboratory courses. A student carrying a full program for credit may be given permission to audit as many courses as he desires without additional fees. Students carrying less than a full program for credit may secure permission to audit but are required to pay the auditing fee of \$6 per semester hour.

Eligibility for Course Enrollment

Courses numbered 1-49 are primarily for freshmen, or freshmen and sophomores. Courses numbered 50-99 are ordinarily for sophomores, or sophomores and juniors. Courses numbered 100-199 are designed for juniors and seniors. Courses numbered 200-299 are planned for

seniors and graduates. Courses numbered from 300 up admit graduate students only. Courses numbered from 200 up are limited in enrollment to 25 students.

Length of Course and Credits Allowed

The Summer Session courses are of the same quality and credit value as courses in the regular semester. Credit earned in the Summer Session is in terms of semester hours. The majority of Summer Session courses carry 3 semester hours credit and require six weeks in residence. A limited number of basic courses in the sciences run for four weeks (Chemistry, Geology, Zoology) or five weeks (Physics). Introductory foreign language courses are given intensively on a three-week basis, as are a limited number of courses in Nursing Education.

The Normal Course Program

The normal and maximum program for a six-week term is 6 semester hours. The 4 and 5 semester hour courses in the sciences run for four and five weeks respectively and one such course constitutes a full course program.

Grading

Only a student taking a course for credit will receive a grade. The grade given represents the quality of the work done in the course.

PASSED.

Undergraduate Grades

A — excellent

B — good

C — average

D — poor but passing

Graduate Grades

E — exceptional

G — good

S — satisfactory

FAILED. A grade of F indicates that the student has failed the course, and in order to receive credit for the course he must repeat the work in class.

INCOMPLETE. A grade of I may be reported by the instructor if for any reason he is unable to report the final grade at the regular time. Incomplete courses must be completed before the close of the succeeding semester; otherwise the I is recorded as F, and the course must be repeated in class if the student is to receive credit for it.

ABSENT FROM FINAL EXAMINATION. The grade X indicates that the student was absent from the regularly scheduled examination. A student absent from examination, if the absence has been

excused by the dean of the college or school in which he is enrolled or, in the case of the special or unclassified student, by the Director of the Summer Session, may receive an examination upon the payment of \$3 to the Treasurer of the University. The instructor concerned arranges for the examination in cases where absences are excused. A student with an X grade who has not obtained a passing grade before the end of the semester following that in which the X was incurred is regarded as having failed in the course concerned and must repeat the work in class in order to receive credit. If a student's absence from an examination is not excused by the dean of the college or school in which he is enrolled or, in the case of the special or unclassified student, by the Director of the Summer Session, his grade for the course concerned is recorded as F.

Dropping of Courses

If a student drops a course without permission from the dean of the school or college in which he is enrolled or, in the case of the special or unclassified student, the Director of the Summer Session, the grade for that course is recorded as F. If he drops a course with permission, the grade for that course is F unless, in the judgment of the dean or director, circumstances do not justify this penalty.

Withdrawal from the Summer Session

If a student wishes to withdraw from the Summer Session, he must notify both the dean of the school or college in which he is registered and the Director of the Summer Session.

Absences

Full credit will not be allowed any student who incurs more than four absences in a course. Days missed through late registration are counted as absences, and three tardies in a given course are counted as one absence.

Examinations

Final examinations in courses are held on the two last days of each term. Final examinations for short courses which occupy the student's complete program will be held on the last day of the course. The examination dates for 1955 are:

First term: July 22-23.

Second term: August 30-31.

Courses in science which begin after the opening date for the first term have been scheduled so that their final examination will come on July 23. The science courses which begin July 27 and run for four weeks will have their final examination on August 19. Final examination for Physics S52 will be on August 25. The University has no provision for giving examinations *in absentia*. Students absent from examinations for valid reasons are permitted a liberal extension of time to return to the University for completion of credit.

Credits for Transfer

A student desiring either graduate or undergraduate credits transferred from Duke University to his university or college as degree credit must request from the Director of the Summer Session, Duke University, a "Course Approval Form" to be completed by the student's Dean or Registrar and returned to the Director of the Summer Session, Duke University.

Professional Credits Toward Teachers' Certificates

Professional credits toward teachers' certificates are granted by the various state boards of education, each in accordance with its own carefully planned rules. Teachers in service, before enrolling for certification credit, should consult the rules laid down by their State Board of Education. If necessary, they should send to their State Board of Education a list of the courses in which they plan to enroll and inquire whether these will be acceptable for certification credit.

University Services, Publications, and Student Activities



Appointments Office

THE APPOINTMENTS OFFICE is maintained in Page Building the year around. The services of this Office are available without charge to students and teachers registered for a degree in Duke University and to school officials who may be seeking the services of new teachers. Students interested in securing employment through the Appointments Office should register with this Office.

The Bureau of Testing and Guidance

The University maintains a Bureau of Testing and Guidance which provides a centralized program of educational, vocational, and personal counseling for students. In addition, the Bureau administers special group testing programs for University schools and departments and serves as the local testing center for a wide variety of national testing programs. The Bureau also carries on programs of research in the field of measurement and counseling. Although the counseling, testing, and research services of the Bureau are designed primarily to meet the needs of the students, the faculty, and the staff of Duke University, these services are made available to individuals and organizations outside the University as its facilities permit. Requests for further information should be addressed to the Director, Bureau of Testing and Guidance, Duke Station, Durham, North Carolina.

Post-Doctoral Research

Scholars engaged in post-doctoral research find it advantageous and sometimes essential to use in summer the resources of the Duke University libraries. The University welcomes these visitors and makes available to them the living accommodations of the dormitories and the dining halls during the Summer Session, June 14 to August 31. Application for these post-doctoral research privileges must be made in advance by letter to the Director of the Summer Session, giving the

applicant's present position, the specific field of his research interest, and the dates during which he desires to be in residence. Approved applicants will be accepted subject to the availability of library and of dormitory space.

The Sundial

During the Summer Session the University will publish each Saturday *The Sundial*, an official calendar announcing events—academic, social and recreational—of the following week. This calendar also includes official notices concerning academic requirements. Students are expected therefore to read *The Sundial* regularly.

Recreation and Social Activities

The Summer Session will provide a varied program of entertainment and recreation. These plans include movies, presented twice weekly by Quadrangle Pictures; the traditional Sunday evening sings; weekly summer dances and open house social evenings with games for those who do not care to dance. Tours to areas of interest can be arranged for week-ends. Both the mountains and the seashore are easily accessible. Adequate facilities are available for those interested in swimming, tennis, and other sports. State clubs organized for the summer play an active part in all social activities.

Resources of the University



THE UNIVERSITY LIBRARIES, with 1,159,512 volumes and 1,550,000 manuscripts, provide exceptional resources and facilities for study and research by undergraduate and graduate students and visiting scholars. Between 40,000 and 50,000 volumes are added annually, while seventy-one foreign and domestic newspapers and 4,000 periodicals are received currently. There is also a large collection of microfilms of rare books, newspapers, and periodicals. Study facilities are provided for 250 graduate students in the air conditioned stacks of the General Library.

All libraries of the University are open for use throughout the summer. A "Student's Guide to the General Library," and a brochure on "The Library of Duke University" which describes the building and collections in general detail are available on request addressed to the Librarian of the University.

The laboratories in the various Science Departments (Botany, Chemistry, Physics, Psychology, and Zoology) are designed for both teaching and research. Ideal locations for special work in some of the sciences are available at Duke University Marine Laboratory at Beaufort, North Carolina; at Highlands Biological Laboratory at Highlands, North Carolina; in the Duke Forest at Durham, North Carolina; and in the Sarah P. Duke Gardens on the West Campus of Duke University.

The Chapel, home of Duke University Church, interdenominational, is open all summer. The church encourages the cultivation of the spiritual and moral life of students through participation in the service of worship which is held each Sunday morning at eleven o'clock. The pulpit is occupied by a regular University Preacher, or a special visiting preacher. Choral music for these services is provided by a volunteer student choir.

Organ recitals are presented periodically by the University Organist, and Carillon recitals twice a week, on Sunday afternoon and Thursday evening, by the University Carillonneur.

Special Conferences and Courses



THE SCHOOL OF SPANISH STUDIES: The Fourteenth annual session of the School of Spanish Studies, June 14 to July 23, will present a program including undergraduate work and advanced oral Spanish, as well as graduate work in language and in Spanish literature. In addition to the regular staff of Duke University, native visiting professors and native assistants will aid students in their everyday use of Spanish.

Faculty, assistants and students will live together in the *Residencia* (House D). The parlor and Craven Quadrangle will be the center of an Hispanic social program. All will have their meals together in a private dining-room, and a member of the staff or a native assistant will be in charge of conversation at each table. The language spoken at all times will be Spanish. Bona fide residents of Durham, or those who are registered in one course in another department may seek, with the permission of the Director of the School, adjustment in the rule concerning living in the *Residencia*.

Because of the special facilities provided in the School of Spanish Studies, a special fee of \$15.00 is charged. All other expenses are the same as in other departments of the Summer Session. Payment for board for the six-week session must be made at the time of registration. *In the Residencia personal radios are not permitted.*

The program of the School of Spanish Studies is intended for the following:

1. High School and College teachers who wish to refresh their active use of Spanish, or to pursue advanced courses.
2. Graduate students and undergraduates who are majoring or minoring in Spanish.
3. Prospective teachers of Spanish and specialists in other fields (business, government service, history, etc.) whose work may require a knowledge of Spanish.
4. Undergraduates who plan to fulfill their requirement in foreign language by courses in Spanish and who desire more than a reading knowledge of the language.

For details of the School of Spanish Studies, write the Director of the Summer Session for the special *Bulletin*. The course offerings of the School are listed in this *Bulletin*.

THE SCHOOL FOR APPROVED SUPPLY PASTORS: The seventh session of the Duke Divinity School's short term school for supply pastors and traveling preachers taking the Conference Course of Study will meet July 19 to August 5, 1955.

The new curriculum as outlined in the 1952 Discipline of the Methodist Church will be followed.

The courses offered will give credit in each of the four years' work. No more than seven books may be taken by the student. All texts must be read, using the Handbook as a guide, before coming to the school.

Classes begin with the first morning period July 20 and close at 1:00 p.m. August 5. In addition, there will be a series of workshops and illustrated lectures in the fields of interest.

A number of scholarships are available for those who need aid in attending the school. Students desiring such aid must pre-register and receive a scholarship allotment before coming to the sessions of the school.

For a schedule of courses, registration blanks, scholarship information, and other data, write Dr. McMurry S. Richey, Box 4673, Duke Station, Durham, North Carolina.

HIGHLANDS BIOLOGICAL STATION: Duke University holds a subscribing instructional membership in the Highlands Biological Station at Highlands, North Carolina, on the southern edge of the Blue Ridge Mountains at an elevation of 4,118 feet. The situation and the region offer an excellent opportunity for field studies and limited laboratory work. A limited number of qualified students in Botany and Zoology may make arrangements to carry out research at this station.

SUMMER CONFERENCE OF THE NORTH CAROLINA ENGLISH TEACHERS ASSOCIATION: Principal meetings of the thirteenth annual English Institute of the North Carolina English Teachers Association will be held at Duke University on August 4-6.

The annual luncheon and the afternoon meeting that follows will be held at the University of North Carolina, Chapel Hill, North Carolina, on August 5.

Full details of the program will be announced at the spring meeting of the Association. For further information write Professor F. E. Bowman, Department of English, Duke University, or the Executive Secretary, Professor Earl H. Hartsell, Box 1050, Chapel Hill, North Carolina.

CONFERENCE ON ELEMENTARY EDUCATION: June 16-17, 1955. This conference is the first of a proposed series of conferences dealing with various areas of learning in the elementary school. The area of learning to be considered in this first conference will be arithmetic.

The general theme of the program will be the Meaning Theory as applied to the teaching of arithmetic. Demonstrations and group discussions at different grade levels will be provided in the schedule of events for the two days.

Dr. Herbert F. Spitzer, State University of Iowa, will be the chief consultant for the Conference. He is nationally recognized in the field of the teaching of arithmetic.

For further information write to the Director of the Summer Session, Duke University, Durham, North Carolina.

CONFERENCE ON RESEARCH IN INCOME AND WEALTH: The Conference on Research in Income and Wealth will hold a meeting on the Duke Campus, June 17-18, 1955. The meeting will be devoted to problems of regional income analysis. A series of invited papers, which will be circulated before the meeting, will be discussed and a round-table will be held on problems concerned with county income estimation.

The Conference on Research in Income and Wealth was organized in 1936 by the National Bureau of Economic Research, and consists of about 75-80 members who are active in the field of national income estimation and investigation. Invitations to the meeting on regional income analysis will be extended to conference members and to other investigators in this and related fields.

MEDICAL MYCOLOGY: A month's course in Medical Mycology, under the direction of Dr. Norman F. Conant, is to be offered at Duke University School of Medicine and Duke Hospital, July 5 to July 30, 1955. The course will be offered every day in the week, except Sunday, and has been designed to insure a working knowledge of the human pathogenic fungi within the time allotted.

Emphasis will be placed on the practical aspects of the laboratory as an aid in helping establish a diagnosis of fungus infection. Insofar as possible and as patients become available, methods of collecting materials in the clinic for study and culture will be stressed. Work with patients, clinical material, cultures and laboratory animals will serve as a basis for this course. Also, an opportunity to study pathologic material, gross and microscopic, will be given those whose previous training would allow them to obtain the greatest benefit from a study of such material.

The enrollment for the course will be limited and the applications will be considered in the order in which they are received. An attempt will be made, however, to select students on the basis of their previous training and their stated need for this type of work.

A fee of \$50.00 will be charged for this course, upon the completion of which a suitable certificate will be awarded. Please direct inquiries to Dr. Norman F. Conant, Professor of Mycology, Duke University School of Medicine, Durham, North Carolina.

Graduate Study in the Summer Session



A STUDENT who holds a bachelor's degree and who desires to take graduate courses for professional or other reasons but not for the purpose of earning an advanced degree should apply to the Director of the Summer Session for admission as a special or unclassified student. Credit earned while the student is so enrolled does not count as credit toward an advanced degree.

A student who wishes to work for an advanced degree must apply for admission to the Graduate School of Arts and Sciences. Upon securing admission the student must then register during the official registration period with *both* the Summer Session and the Graduate School of Arts and Sciences.

In order that application to the Graduate School for summer work be given due consideration, the student should submit all required documents to the Dean of the Graduate School by the date of June 1 preceding the first term, and by the date of July 10 preceding the second term of the Summer Session. It is difficult to process properly applications received after these dates. Applicants for admission to the Graduate School will be notified as soon as practicable of the action taken on their application.

Admission to the Graduate School

Admission may be granted to a student who has received an A.B. or B.S. degree from an accredited institution after a four-year course of study. The undergraduate record should be well-rounded and of such quality as to give positive evidence of capacity for success in graduate study. Before admission can be granted, the student must submit for appraisal the following documents: (a) an official transcript of all his college or graduate work, to be forwarded directly from the registrar of his college to the Dean of the Graduate School of Duke University; (b) three letters of recommendation from persons best qualified to appraise the student. In the departments of Economics, Psychology, and English, scores on all three phases of the Graduate Record Examination are required before full admission can be granted. If possible, the student should take both parts of this examination

in advance of his intended registration. Arrangements can usually be made through officials at the student's college, or by correspondence with the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey. Should a student be unable to take the examination before the final admission date, he may—if his other documents are acceptable—be granted "provisional" admission until he takes the examination, which he must arrange to take at the first time it is offered, after his "provisional" admission. Students admitted to the Graduate School will be so notified by the Director of Admissions.

Registration of Graduate Students

Students who have been admitted to the Graduate School should present themselves for registration at the official registration period, June 14 for the first term, and July 26 for the second term. They are required to register with both the Summer Session and the Graduate School. No credit earned may be counted toward a degree unless the student is so registered.

Course Work Leading to Degree

Graduate students who wish to work toward an advanced degree in the Summer Session, particularly in Chemistry, Economics, Education, English, History, Mathematics, Religion, Sociology, Spanish, and Zoology, will find a selection of courses offered by members of the Duke faculty and by visiting professors. Other departments ordinarily offering sequences of work leading to the Master of Arts degree in a series of summer terms are Botany, Political Science, and Psychology.

The Ph.D. and Ed.D. Degrees

STUDY FOR THE PH.D. DEGREE: Students who are interested in working toward a Ph.D. degree should consult the detailed requirements as outlined in the *Bulletin* of the Duke University Graduate School of Arts and Sciences. Of the three years required as minimum residence, not more than one year can be earned in Summer Sessions. Full-time enrollment for one six-week term is counted as one-fifth of an academic year.

STUDY FOR THE ED.D. DEGREE: Students who are interested in working toward an Ed.D. degree should consult the detailed statement in the *Bulletin* of the Graduate School of Arts and Sciences. For specific information regarding residence and programs for the Ed.D. degree, please write to the Director of Graduate Studies, Department of Education.

Requirements for the Master of Arts Degree

LANGUAGE REQUIREMENTS: The candidate for the A.M. degree must have a reading knowledge of at least one foreign language. (The several departments reserve the right to specify which foreign languages are acceptable.) Evidence of such knowledge may be furnished in either of two ways: (1) by successfully passing an examination, officially conducted by the appropriate foreign language department at Duke University, or (2) by a transcript showing the completion of the third college year of one language, or the second college year of each of two acceptable foreign languages.

If the student must take the examination to satisfy this requirement, he may request—should he feel well qualified—the language examination required of candidates for the Ph.D. degree. By passing this examination, he may satisfy the requirements for both degrees at one time.

MAJOR SUBJECT: As a prerequisite to graduate study in his major subject, the student must have completed a *minimum* of 12 semester hours of approved college courses in that subject, and 12 additional semester hours in that subject or in related work. Since some departments require more than 12 semester hours, the student should read carefully the special requirements listed by his major department, which are included as headnotes to the course offerings in the *Bulletin* of the Graduate School.

In his graduate work, the student, in order to complete the course requirements for the A.M. degree, must present acceptable marks for 24 semester hours of graduate courses, of which at least 12 semester hours must be in the major subject. In addition to these he must present a thesis, which carries a credit of 6 semester hours. Thus, his earned credit for the degree totals 30 semester hours.

MINOR SUBJECT: Beyond the work for his major, the student must take a minimum of 6 semester hours in a minor department, the department of the minor to be approved by his major department. The remaining 6 semester hours of the necessary 24 may be taken in either of these departments, or in another approved by the major department and by the Dean of the Graduate School.

TRANSFER OF CREDITS: Under certain circumstances a maximum credit of 6 semester hours may be allowed for graduate courses completed elsewhere. The acceptance of credit up to this amount, however, will not reduce the minimum period of full-time registered residence at Duke University. In no case will credit be allowed for extension or correspondence courses.

With the approval both of the student's major department and the Dean of the Graduate School, a student who is granted such trans-

fer credit may be permitted to register for as much as 12 semester hours of thesis research instead of the usual 6 semester hours. Or he may be permitted to fill out his schedule with as much as 6 semester hours of further undergraduate training or 6 semester hours of required language courses on the undergraduate level.

CANDIDACY FOR THE MASTER OF ARTS DEGREE: In order to be considered a candidate for a Master's degree (A.M., M.Ed., M.A.T.) a student must (1) have received the approbation of the major department, or in the case of the M.A.T., of his committee, (2) have made passing grades in all his courses during his first semester (If he registers for fewer than 12 semester hours of graduate courses during his first semester, or if he is enrolled in the Summer Session, he must make passing grades in his initial 12 hours of graduate courses.), (3) have made a grade of "G" or "E" on at least 3 semester hours of this work.

If he does not fulfill these conditions on the initial semester hours, but does better work, signified by a substantial number of "G's" or "E's" in a subsequent term, he may be granted permission then to re-apply for candidacy.

TIME LIMITS FOR COMPLETION OF THE MASTER OF ARTS DEGREE: The candidate for the A.M. degree must complete all requirements within a period of six calendar years from the date of his initial registration. Credits earned over a longer period of time cannot be credited toward a degree.

THE THESIS FOR THE MASTER OF ARTS DEGREE: The thesis for the A.M. degree should demonstrate the student's ability to collect, arrange, interpret or report pertinent material on his special research problem. Although a publishable document is not required, the thesis must be written in a literate style, and should exhibit the student's competence in scholarly methods and procedures.

REGULATIONS AND PROCEDURES: On or before July 13 or August 1 (see calendar) of the summer in which it is expected the degree will be conferred, the student must file the final title of the thesis with the Dean of the Graduate School. Official blanks are provided for this purpose.

Four bound, typewritten copies of the thesis must be submitted, in approved form, to the Dean of the Graduate School at least one week before the date of the thesis examination. The copies will then be distributed to the several members of the examining committee.

THE EXAMINING COMMITTEE AND THE EXAMINATION: After consultation with the professor who has directed the thesis, the Dean of the Graduate School appoints an examining committee composed of the director of the thesis and two other members of the Graduate Faculty. The candidate appears before this com-

mittee for an examination, which lasts for about one and one-half hours. Subject matter is usually restricted to the thesis and to major field.

If the candidate successfully passes his examination, the examining committee certifies to this fact by signing the title page of the thesis. The candidate then returns the original and one carbon copy of the thesis to the Dean of the Graduate School for deposit in the University Library.

Requirements for the Master of Education Degree

PREREQUISITES: The degree of Master of Education is granted ordinarily only to teachers or to others engaged in educational work.

Before a student is admitted to graduate study for this degree, he should have completed, on the undergraduate level, a minimum of 18 semester hours of approved work in Education, including courses in Educational Psychology, and courses in the History of Education, Educational Sociology, or School Administration.

Early in the program of his work, the student must pass two examinations: (1) a test of general ability, and (2) a test designed to determine his ability to write acceptable English. The student, before the degree is conferred, must also present evidence testifying to at least two years of teaching experience, gained either before his admission to course work, or concurrently with it.

REQUIREMENTS FOR THE DEGREE: The M.Ed. degree may be earned either with or without the presentation of a thesis.

WITHOUT THESIS: Students who elect this plan must present a total of 30 semester hours. Twelve hours of this required work must include the *four* basic courses: Education 204, 210, 217, and 235.* If a student, by examination, can demonstrate his competency in the subject matter of two of these courses, he may be granted exemption from the required work in these courses. In no case may he claim exemption from more than two.

Other requirements are: a departmental major (i.e., in Nursing Education, Elementary Education, Public School Administration, Public School Supervision, or Secondary Education) of at least 12 semester hours, and a minor of at least 6 semester hours in a department other than Education. Toward the end of his residence the student must pass a comprehensive examination on his departmental major and on the content of the four basic courses. Permission to take such examinations must be obtained from the Director of Graduate Studies of the Department of Education, and a notice of intention must be

* Note: In the Summer Session of 1955, Education S210 and S217 will not be offered.

filed with him at least three weeks before the announced dates of the examinations.

WITH THESIS: Students who elect this plan are permitted to substitute a thesis for 6 semester hours of the required course work. The student must present a thesis subject approved by the professor who is to direct it, by the Director of Graduate Studies in Education, and by one other member of the staff of the Department of Education. Two of the three members of the approving committee must be permanent members of the Duke University Graduate Faculty. The title of the thesis must be filed with the Dean of the Graduate School at the same time as the titles for the A.M. theses (see p. 35).

In addition to the thesis, the student must present 24 semester hours of course credit. Of these, 6 semester hours must be earned in *two* of the basic courses in the Department; Education 204, 210, 217, or 235. Of the remaining 18 semester hours, 6 semester hours must constitute a minor taken outside of the Department of Education; at least 12 semester hours must be taken in the student's departmental major.

The regulations regarding submission of typed copies of the thesis and the thesis examination are the same as those for the A.M. degree (see p. 35).

CANDIDACY FOR THE MASTER OF EDUCATION DEGREE:

In order to be considered a candidate for a Master's degree (A.M., M.Ed., M.A.T.) a student must (1) have received the approbation of the major department, or in the case of the M.A.T., of his committee, (2) have made passing grades in all his courses during his first semester (If he registers for fewer than 12 semester hours of graduate courses during his first semester, or if he is enrolled in the Summer Session, he must make passing grades in his initial 12 hours of graduate courses.), (3) have made a grade of "G" or "E" on at least 3 semester hours of this work.

If he does not fulfill these conditions on the initial semester hours, but does better work, signified by a substantial number of "G's" or "E's" in a subsequent term, he may be granted permission then to re-apply for candidacy.

TIME LIMITS FOR COMPLETION OF THE MASTER OF EDUCATION DEGREE: The candidate for the M.Ed degree must complete all requirements within a period of six calendar years from the date of his initial registration. Credits earned over a longer period of time cannot be credited toward a degree.

Requirements for the Master of Arts in Teaching Degree

PREREQUISITES: The degree of Master of Arts in Teaching is designed for both teachers in service and recent graduates of Liberal Arts colleges who wish to enter public school teaching.

A student should normally have completed a minimum of 12 semester hours in his proposed major subject and an additional 12 semester hours in the major or related subjects. In the event that a student wishes to undertake a graduate major different from the undergraduate major, the prerequisites are possible of modification upon the recommendation of the student's committee and the approval of the Dean of the Graduate School.

PROGRAMS FOR THE DEGREE: One of two programs may be arranged, in consultation with the student's committee: (1) A major in Education of 18 to 24 semester hours and 6 to 12 semester hours in non-education courses. (2) A major in non-education courses of 18 to 24 semester hours and 6 to 12 semester hours in Education. In both programs a minimum of 30 semester hours is required.

The non-education courses are to be taken in one or more subjects ordinarily taught in the secondary schools. The amount and distribution of this work will be determined by the needs of the individual student.

The Master of Arts in Teaching may be earned with or without the presentation of a thesis. If a student, in consultation with his committee, elects to present a thesis, 6 semester hours of the total of 30 semester hours required will be allotted to thesis research. He will then be required to complete 24 semester hours of course credits. The regulations concerning the writing and submission of the thesis, and the examination of it, are the same as those governing the thesis for other masters' degrees offered in the Graduate School.

THE COMMITTEE: Each candidate for the degree will be assigned a committee, appointed by the Dean of the Graduate School, to plan his program of study.

This committee will consist of three members, at least one of whom will be from the Department of Education, and at least one from another department. The chairman of the committee will normally be chosen from the department of the major.

School of Nursing



BOTH the Diploma and Degree programs of the School of Nursing include courses in the Summer Session. Persons desiring degree credit for either of these programs must be regularly admitted to the School of Nursing. All persons who seek enrollment in the School of Nursing must have their program approved in the office of the School of Nursing. Students admitted with Advance Standing to the School of Nursing may make up deficiencies in their previous programs as approved by the School of Nursing. Information about summer courses and costs is published in the regular *Bulletin* of the School of Nursing. For further information write to the Dean of the School of Nursing, Hanes House, Duke University, Durham, North Carolina.

Divinity School Studies



BACHELOR OF DIVINITY AND MASTER OF RELIGIOUS EDUCATION: The degrees of Bachelor of Divinity and Master of Religious Education are administered by the faculty of the Divinity School. A limited number of courses carrying credits toward these degrees is listed in this *Bulletin* under the heading of Religion. Persons desiring credit toward either of these degrees must be regularly admitted to the Divinity School, and all courses listed for Divinity School credit must be registered and approved in the office of the Divinity School. This school publishes its own Summer Session *Bulletin*, a copy of which may be secured by addressing The Office of the Dean, The Divinity School, Duke Station, Durham, North Carolina.

Undergraduate Study



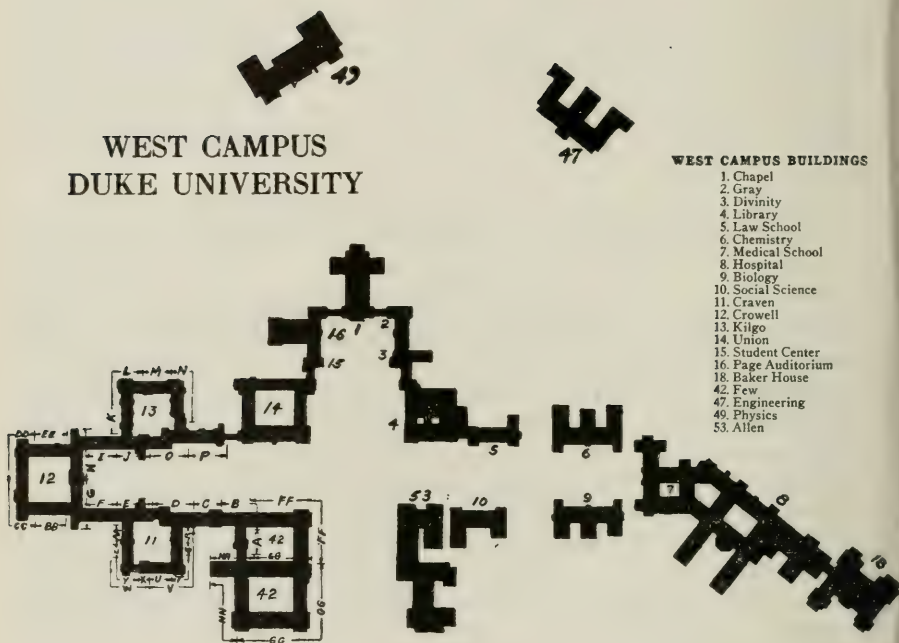
UNDERGRADUATES in Duke University who desire to accelerate their programs may complete the work for a degree in three years by attending two and one-half summer sessions. By attending both terms of the Summer Session it is possible for a student to earn as many as twelve semester hours of credit. Instruction of interest to undergraduates will be offered in the summer of 1955 in most of the departments and colleges.

Undergraduates from other colleges and universities may enroll for summer instruction at Duke and transfer their earned credits to their own institutions.

WEST CAMPUS DUKE UNIVERSITY

WEST CAMPUS BUILDINGS

1. Chapel
2. Gray
3. Divinity
4. Library
5. Law School
6. Chemistry
7. Medical School
8. Hospital
9. Biology
10. Social Science
11. Craven
12. Crowell
13. Kilgo
14. Union
15. Student Center
16. Page Auditorium
18. Baker House
42. Few
47. Engineering
49. Physics
53. Allen



Courses of Instruction



Minimum Enrollment Required for Courses

ALL courses are offered subject to minimum enrollments. The University reserves the right to withdraw undergraduate courses in which fewer than twelve students enroll, senior-graduate courses numbered 200-299 in which fewer than ten students enroll, and graduate courses and seminars numbered 300 or above in which fewer than six students enroll. In withdrawing a course, the University attempts to avoid undue hardships on students. Sometimes, therefore, courses are offered in spite of small enrollments. Courses not listed will be given when a demand develops and an instructor is available.

Department Officers and Regulations

Departments offering Summer Session programs are listed alphabetically. Under each department is given the name of the chairman and the name of the director of graduate studies. Where departments have set up special regulations for admission to candidacy for the Master's degree, these are included.

Key to Room Assignments for Classes

The description of each course indicates the building and room in which the course is scheduled and the hour at which it will be given. For example: Economics S51 is scheduled as 53.229. This means Building 53 Room 229. The key to building numbers is given in the chart.

BOTANY

PROFESSOR HENRY J. OOSTING, CHAIRMAN—121 SCIENCE BUILDING (EAST CAMPUS);
PROFESSOR PAUL J. KRAMER, DIRECTOR OF GRADUATE STUDIES—
04 BIOLOGY BUILDING (WEST CAMPUS)

For admission to candidacy for the Master's degree in Botany, students must have completed a minimum of eighteen semester hours of biological science, including six semester hours of botany in courses numbered above 100. Students who have not yet had the minimum eighteen hours, however, may enter higher courses by permission of the instructor, if he is convinced that they can carry the work for undergraduate credit, and may count such work toward the eighteen hours necessary for candidacy.

FIRST TERM

S225. SPECIAL PROBLEMS.—Hours to be arranged.

STAFF

S359. RESEARCH.—Hours to be arranged.

STAFF

FIRST TERM (Marine Laboratory at Beaufort, North Carolina)

S205. MARINE MICROBIOLOGY.—Culturing, population analyses, and ecological significance of marine microorganisms with special reference to bacteria and unicellular algae. Prerequisite: One year of botany or equivalent. 6 s.h.

MR. HUMM

S359. RESEARCH.—Hours to be arranged.

MR. HUMM

SECOND TERM

S225. SPECIAL PROBLEMS.—Hours to be arranged.

STAFF

S359. RESEARCH.—Hours to be arranged.

STAFF

CHEMISTRY

PROFESSOR J. H. SAYLOR, CHAIRMAN—115 CHEMISTRY BUILDING (WEST CAMPUS);

PROFESSOR CHARLES K. BRADSHER, DIRECTOR OF GRADUATE STUDIES—

124 CHEMISTRY BUILDING (WEST CAMPUS)

All classes in Chemistry, Term I, will begin on June 28 and continue through July 23. All classes in Chemistry, Term II, will begin on July 27 and continue through August 19. Students who wish to avoid paying a late registration fee must have their registration completed in advance of these dates. For registration dates see *General Registration* on Page 19 of this *Bulletin*.

FIRST TERM

S1. GENERAL INORGANIC CHEMISTRY.—Lectures, recitations, and laboratory work on the elementary principles of chemistry and on the occurrence, preparation, properties, and uses of the elements and their compounds. Recitation daily, 8:00-9:00, 6.112; laboratory daily, 9:00-12:00, 6.108; lecture daily, 12:00-1:00, 6.116. 4 s.h.

MR. STROBEL

S61. FUNDAMENTALS OF ANALYTICAL CHEMISTRY.—A study of the relations of electrolytes in solution and of chemical equilibrium illustrated by laboratory experiments involving the techniques of gravimetric, volumetric, and colorimetric analysis. Prerequisites: Chemistry 1-2 and Mathematics 6 or equivalent. Lecture or recitation daily, 8:30-10:00, 6.122; laboratory daily, 11:00-12:30 and 2:00-5:00, 6.208. 4 s.h.

MR. SAYLOR

S151. ORGANIC CHEMISTRY.—An introduction to the study of carbon compounds. Compounds of the aliphatic series form the basis of lectures, discussions and laboratory experiments. Prerequisite: Chemistry S61. Recitation daily, 8:00-9:00, 6.01; laboratory daily, 9:00-12:00, 6.301; lecture daily, 12:00-1:00, 6.01. 4 s.h.

MISS BROWN

S275. THESIS RESEARCH.—Research in the fields of physical, analytical, inorganic, or organic chemistry. Open to those students whose research programs for the A.M. and Ph.D. degrees have been approved by the department and by one of the instructors in charge of the course. Schedule to be arranged. (Not more than one semester hour of credit per week for full-time schedule or one semester hour each two weeks for half-time schedule.) 2 to 8 s.h. Available Term I and II.

STAFF

SECOND TERM

S2. GENERAL INORGANIC CHEMISTRY.—A continuation of S1. Prerequisite: Chemistry S1. Recitation daily, 8:00-9:00, 6.112; laboratory daily, 9:00-12:00, 6.108; lecture daily, 12:00-1:00, 6.116. 4 s.h.

MR. WILDER

S152. ORGANIC CHEMISTRY.—A study of compounds of the aromatic series and of carbohydrates and proteins. Prerequisite: Chemistry S151. Recitation daily, 8:00-9:00, 6.01; laboratory daily, 9:00-12:00, 6.301; lecture daily, 12:00-1:00, 6.01. 4 s.h.

MR. BRADSHER

ECONOMICS

PROFESSOR CALVIN B. HOOVER, CHAIRMAN; PROFESSOR FRANK T. DEVYVER, EXECUTIVE OFFICER OF THE DEPARTMENT—203H SOCIAL SCIENCE BUILDING (WEST CAMPUS);
PROFESSOR R. S. SMITH, ACTING DIRECTOR OF GRADUATE STUDIES—
203E SOCIAL SCIENCE BUILDING (WEST CAMPUS)

FIRST TERM

S51. PRINCIPLES OF ECONOMICS.—A short course in the essential principles of economic science. (This course will not count as a part of the minimum economics requirements for graduation until the equivalent of S52 has been completed. Credit for Ec. S51 will not be given until Ec. 52 has been completed.) 11:00-12:20. 53.229. 3 s.h. Mr. MCKENZIE

S57. PRINCIPLES OF ACCOUNTING.—Elementary principles of single proprietorship, partnership, and corporation accounting. June 14-July 1. 7:40-12:20. 10.212. 3 s.h. Mr. SHIELDS

S58. PRINCIPLES OF ACCOUNTING.—A continuation of Economics S57. July 5-23. 7:40-12:20. 10.212. 3 s.h. Mr. SHIELDS

S149. INTERMEDIATE ECONOMICS.—This course develops methods of economic analysis beyond the principles level. Major emphasis is laid on the determination of price and distribution of income. These problems are studied in the context of both competitive and monopolistic market structures. 7:40-9:00. 53.221. 3 s.h. Mr. MCKENZIE

S168. MARKETING.—The topics covered in this course include the economic importance of markets and the marketing system; marketing functions; organization and methods, price policies; finance; speculation; market research and the planning of marketing activities; co-operative marketing; criticism of marketing and means for improvement; and regulation. 11:00-12:20. 53.221. 3 s.h. Mr. LANDON

S171. ADVANCED ACCOUNTING.—Advanced accounting theory and practice applied to the managerial problems of valuation and operation in corporations, consolidations, mergers, and liquidations. Open to students who have completed Accounting 57-58. June 14-July 1. 7:40-12:20. 10.214. 3 s.h. Mr. BLACK

S172. ADVANCED ACCOUNTING.—A continuation of Economics S171. July 5-23. 7:40-12:20. 10.214. 3 s.h. Mr. BLACK

S218. BUSINESS CYCLES.—A study of the various types of cyclical movements in industry, with special emphasis on cycle theory and methods of controlling or modifying business cycles. 9:20-10:40. 53.221. 3 s.h. Mr. HUMPHREY

S232. THE ECONOMIC HISTORY OF UNITED STATES.—A study of the agricultural, industrial, commercial, and financial progress of the United States from colonial times to the present day. 7:40-9:00. 53.307. 3 s.h. Mr. SMITH

S318X. THESIS SEMINAR.—Hours to be arranged. MESSRS. SMITH, HUMPHREY

SECOND TERM

S52. PRINCIPLES OF ECONOMICS.—A continuation of Economics S51, emphasis on economic problems. 11:00-12:20. 53.225. 3 s.h. Mr. DEWEY

S105. INDUSTRIAL MANAGEMENT.—A study of the organization and management of industrial production, with emphasis upon the principles governing location and plant design, the planning and control of materials and methods, and general price policies. 9:20-10:40. 53.225. 3 s.h. Mr. JOERG

S143. CORPORATION FINANCE.—Principles and problems in the financial organization of corporations; the study of corporate securities, the management of capital, the distribution of earnings; industrial combinations; insolvency and reorganization. (Though not a prerequisite, Economics 57-58, Principles of Accounting, or Economics 60, General Accounting, are recommended to students electing this course.) 7:40-9:00. 53.229. 3 s.h. Mr. JOERG

S155. LABOR PROBLEMS.—An examination of present-day labor problems followed by an intensive study of methods used by employers and workers in meeting those problems. 11:00-12:20. 53.226. 3 s.h. **MR. CARTTER**

S257. DYNAMICS OF THE LABOR MOVEMENT.—A study of the forces which have shaped the growth of the labor movement. Special emphasis on the origin of modern trade unionism, relating its growth with Western philosophic developments, and with the changing economic and social structure of society in Europe and America. 7:40-9:00. 53.221. 3 s.h. **MR. CARTTER**

S318X. THESIS SEMINAR.—Hours to be arranged.

MR. CARTTER

EDUCATION

PROFESSOR WILLIAM H. CARTWRIGHT, CHAIRMAN—IC WEST DUKE BUILDING (EAST CAMPUS);
PROFESSOR EDWARD C. BOLMEIER, DIRECTOR OF GRADUATE STUDIES—
 IC WEST DUKE BUILDING (EAST CAMPUS)

For admission to candidacy for the Master of Arts (A.M.) degree with major in Education, or for the Master of Education (M.Ed.) degree, students must, in addition to meeting the general requirements for admission to the Graduate School, meet the following specific requirements: Credit for (1) eighteen semester hours of acceptable prior work in Education and (2) twelve semester hours of acceptable prior work in a minor field. If Psychology, Sociology, Economics, or Political Science is chosen for the minor, six semester hours of work completed after entering the Junior year in college will be accepted.

The degree of Master of Arts is available in the divisions of Public School Administration, Public School Supervision, Secondary Education, Elementary Education and Educational Psychology. Every candidate for the Master of Arts degree in the Department should elect at least twelve semester hours in one of these divisions in which he plans to write his thesis and the remainder of his work, including the six semester hours in his minor, with the approval of the proper division adviser. The degree of Master of Education is available in the divisions of Public School Administration, Public School Supervision, Secondary Education, and Elementary Education. Dr. Bolmeier and Dr. Stumpf are advisers to students in School Administration and in Supervision; Dr. Carr, Dr. Petty, and Dr. Rudisill are advisers in Elementary Education; Dr. Bolmeier, Dr. Cartwright and Professor Childs are advisers in Secondary Education; and Dr. Weitz is adviser in Educational Psychology. Candidates for the Master of Arts, Master of Education, or Master of Arts in Teaching degree should read with special care the regulations of the Graduate School as set forth on pages 32-38. Candidates for the Master of Arts in the field of guidance should consult the special brochure on guidance available from the Dean of the Graduate School.

FIRST TERM

S84. SOCIAL FOUNDATIONS OF EDUCATION.—Survey of the place and function of education and an understanding of the school as a social institution. 11:00-12:20. 53.312. 3 s.h. **MR. STUMPF**

S88. EDUCATIONAL PSYCHOLOGY: LEARNING AND MEASUREMENT.—This course and Education 118 constitute a general introduction to the field of Educational Psychology. This course deals with (1) the psychology of learning, including: the nature of the learning process, general principles or laws of learning, the course of learning and forgetting, factors influencing efficiency in learning and retention and the transfer of training; and (2) measurement, including: the basic concepts in the measurement of intelligence, standardized achievement tests, the extent and significance of individual differences in ability and performance. Opportunity will be afforded for examination and study of a variety of tests of intelligence and achievement. **MR. GEHMAN**

S88.1. 7:40-9:00. 53.233. 3 s.h.

S88.2. 9:20-10:40. 53.226. 3 s.h.

S201. TEACHING AND SUPERVISION OF ARITHMETIC.—This course gives special attention to the number system, the fundamental operations (with whole numbers, fractions, and decimals), percentage and measurements. The course will consider the meaning theory, methods of teaching, problem solving, evaluation, practice and drill, and selection and gradation of arithmetical contents. The course is designed for teachers and supervisors in the elementary school. 7:40-9:00. 53.125. 3 s.h. **MR. PETTY**

S203. PRINCIPLES OF SCHOOL ADMINISTRATION.—The fundamental facts and procedures of school administration, an analysis of the problems and policies of the organization and direction of a local school system, and the functions of the various school officials. Prerequisites: Education 103 and 88, or six semester hours of equivalent work in education. 9:20-10:40. 53.327. 3 s.h. **MR. STUMPF**

S204. THE SCHOOL AS AN INSTITUTION.—The place of the school in society, its history and philosophy. Selected problems guiding the reading of students will be discussed in class. This is one of the courses required for the Master of Education degree without thesis. Open to graduate students only. 7:40-9:00. 53.316. 3 s.h. **MR. BOLMEIER**

S211. THE PROBLEM CHILD (also Psychology S211).—Study of problem behavior and adjustment in children with emphasis on the causes and treatment of conduct and neurotic disorders of the maladjusted child. Particular attention will be paid to mental hygiene principles in the handling of problem children in school and home. 11:00-12:20. 53.125. 3 s.h. **MR. BORSTELMANN**
(See also Psychology S232, PERSONALITY AND PHYSICAL HANDICAP, p. 57.)

S226. TEACHING READING IN THE ELEMENTARY SCHOOL.—A study of the nature of the reading process and of principles, methods, and materials for the development of effective reading attitudes and skills as applied both to developmental and remedial programs. The course provides practice with elementary-school children suffering reading retardation, including testing, diagnosis, and daily remedial teaching during the six-week period. 11:00-12:20. A.2F. 3 s.h. **MISS RUDISILL**

S228. IMPROVEMENT OF INSTRUCTION IN THE SOCIAL STUDIES.—An advanced treatment of curriculum, methods, and materials in the social studies. Individuals will concentrate on subjects and grade levels of their choice. 9:20-10:40. 53.234. 3 s.h. **MR. MCLENDON**

S232. SUPERVISION OF INSTRUCTION.—A survey of supervision as a means of improving instruction and adapting the curriculum to the learner and to community needs. 7:40-9:00. 53.226. 3 s.h. **MR. MCLENDON**

S234. SECONDARY SCHOOL ORGANIZATION AND ADMINISTRATION.—This course is designed especially for principals, teachers, and other prospective members of the secondary-school staff. The scope of secondary education is considered to encompass junior high school, regular high school, senior high, and junior college. Special treatment is given to the problems of internal organization and management. 11:00-12:20. 53.234. 3 s.h. **MR. BILLETT**

S235. THE NATURE, FUNCTION AND ORGANIZATION OF THE CURRICULUM.—A study of the fundamental bases for the curriculum, how the curriculum functions in the school program, and the techniques of curriculum construction. This is one of the courses required for the Master of Education degree without thesis. Open to graduate students only. 9:20-10:40. 53.316. 3 s.h. **MR. BILLETT**

S236. TEACHING READING IN THE SECONDARY SCHOOL.—A study of the nature of the reading process and of principles, methods, and materials for the development of effective reading attitudes and skills as applied both to developmental and remedial programs. For secondary-school teachers of all subjects who wish to improve the reading and study habits of their students. 9:20-10:40. A.2F. 3 s.h. **MISS RUDISILL**

S243. PERSONALITY DYNAMICS.—A study of personality structure and dynamics with emphasis upon the implications for counseling and instruction. Prerequisite: 6 hours of psychology or educational psychology. 7:40-9:00. 53.314. 3 s.h. MR. WEITZ

S246. THE TEACHING OF MATHEMATICS.—This course deals with such topics as aims, curriculum, course and lesson planning, and classroom procedure for teaching secondary-school mathematics. 7:40-9:00. 53.312. 3 s.h. MR. REYNOLDS

S253. SCHOOL LAW.—The primary purpose of this course is to familiarize prospective school administrators and teachers with the legal features of school organization and administration. Although some attention is given to constitutional and statutory provisions, the main emphasis is upon court decisions relating to education. Students are expected to select appropriate problems in school law for intensive study. 9:20-10:40. 53.312. 3 s.h. MR. BOLMEIER

S258. EDUCATIONAL MEASUREMENTS.—A critical study of the principles and techniques involved in measurement in education, with opportunity for individual research. Prerequisite: twelve semester hours in the Department, including a course in educational psychology. 11:00-12:20. 53.316. 3 s.h. MR. WEITZ

S276. THE TEACHING OF HIGH-SCHOOL SCIENCE.—Discussion, lectures and collateral reading, related to such topics as aims, tests, curriculum, classroom and laboratory procedure, field trips, course and lesson planning for secondary-school science. 9:20-10:40. 53.328. 3 s.h. MR. REYNOLDS

SECOND TERM

S118. EDUCATIONAL PSYCHOLOGY: PSYCHOLOGICAL DEVELOPMENT.—This course traces the psychological development of the individual from infancy to maturity. The principal topics considered are: the interdependence of hereditary and environmental factors in development, the nature of the developmental process, the establishment of the early basic patterns of behavior, changes and conditions producing these changes throughout childhood and adolescence to maturity, and the origin and treatment of minor behavior disorders. To the degree practicable, students will observe children in typical and atypical situations as a means of securing concrete data on the problems treated in the course. Not open to students who have had Psychology 121 or 126. Prerequisite: three semester hours in psychology or educational psychology. 9:20-10:40. 53.221. 3 s.h. MR. ECKHAUSER

S205. CURRICULUM PROBLEMS IN SECONDARY EDUCATION.—A consideration of the aims and objectives of secondary school subjects, emphasizing practical problems of curriculum-making in the high school. 7:40-9:00. 53.125. 3 s.h. MR. CHILDS

S240. EDUCATIONAL AND OCCUPATIONAL INFORMATION.—A study of the sources of occupational and educational information; methods of securing and organizing occupational information; methods of providing vocational and educational information to students through career days, college conferences, class activities, and individual counseling; methods of making job analyses and community occupational surveys. 7:40-9:00. 53.316. 3 s.h. MR. COLVER

S241. PRINCIPLES OF GUIDANCE.—An historical survey of the philosophies of guidance; a study of the interrelationships between instruction, administration, and guidance in education. Prerequisites: 6 hours of psychology or educational psychology. 9:20-10:40. 53.125. 3 s.h. MR. COLVER

S267. THE TEACHING OF SCIENCE IN THE ELEMENTARY SCHOOL.—This course deals with such topics as aims and values, curriculum materials, classroom procedures, lesson planning, and grade placement for science teaching in the elementary school. 7:40-9:00. 53.312. 3 s.h. MR. REYNOLDS

S285. AUDIO-VISUAL AIDS IN EDUCATION.—The aims and psychological bases of audio-visual materials in the classroom. Attention to such materials as charts, filmstrips, flat pictures, maps, models, motion pictures, radio, records, slides, and television. 11:00-12:20. 53.125. 3 s.h. MR. ECKHAUSER

NURSING EDUCATION

A DIVISION OF THE DEPARTMENT OF EDUCATION

MISS THELMA INGLES, R.N., DIRECTOR OF THE DIVISION OF
NURSING EDUCATION—HANES HOUSE (WEST CAMPUS)

FIRST TERM

S84N. SOCIAL FOUNDATIONS OF NURSING EDUCATION.—A special section of Education 84, applied to Nursing Education. A survey of major historical, philosophical, and sociological factors which have affected developments in nursing and nursing education. The purpose of the course is to give the student a better understanding of the place of nursing in present day society and the responsibilities of the individual nurse toward that society. 9:20-10:40. 53.326. 3 s.h.

MISS RAPPAPORT

S120N. NURSING EDUCATION: PROBLEMS IN NURSING CARE.—Each student works on an individual problem designed to improve the nursing care of patients. Hours to be arranged. 3 s.h.

MISSSES ZUKOWSKI, TILLEY

S124N. NURSING EDUCATION: TEACHING OF THE NURSING ARTS.—In this course an effort is made to help prospective teachers to integrate the facts and principles of the natural, social, and medical sciences into the teaching of nursing arts. Though major emphasis is placed upon problems which are involved in teaching the first course, the concept of the nursing arts as an integral part of each clinical area is stressed. 7:40-9:00. 10.201. 3 s.h.

MISS RAPPAPORT

S129N. THE PSYCHOLOGICAL ASPECTS OF NURSING CARE.—This course is designed to help the student better understand how patients feel and why they may behave as they do. Special consideration will be given to problems such as resistance to treatment, lack of desire to get well, discouragement, and suspicion. The student may try new techniques in the Duke Hospital setting, if she so desires. 7:40-9:00. 10.204. 3 s.h.

MISS ZUKOWSKI

NOTE: The above course is essentially the same as 130N, Psychosomatic Nursing, which appears in the Undergraduate Bulletin.

S136N. SEMINAR IN MEDICAL OR SURGICAL SPECIALTY.—Directed study in a medical or surgical specialty. Each student works on a problem of major interest to her—such as care of the patient with cancer or care of the patient with heart disease. Individual research in the collection of original material. 9:20-10:40. 10.106C. 3 s.h.

MISS INGLES

S193N. WARD ADMINISTRATION AND TEACHING.—This course is designed to help head nurses better understand their functions in planning and managing a program in a hospital division which will result in improved care of patients, greater satisfaction for professional and non-professional personnel and a more adequate teaching program for students and others. 11:00-12:20. 53.326. 3 s.h.

MISS INGLES

SECOND TERM

S120N. NURSING EDUCATION: PROBLEMS IN NURSING CARE.—Each student works on an individual problem designed to improve the nursing care of patients. Hours to be arranged. 3 s.h.

MISSSES ZUKOWSKI, TILLEY

S194N. TEAM NURSING.—Discussion of principles of Team Nursing, and practice in a Clinical area as a team member and a team leader. 7:00-12:20. Room 3032. Duke Hospital. Monday through Friday, July 25-August 5. Limited to 20 students. 2 s.h.

MISS CLARK AND STAFF

S195N. PERSONNEL WORK IN SCHOOLS OF NURSING.—The primary purpose of this course is to help nurses and supervisors to develop greater understanding of the principles of human behavior and greater ability to apply these principles in working with patients and others in hospital divisions and in establishing cooperative relationships with other departments of the hospital. 9:20-10:40. 53.312. 3 s.h.

MISS JACOBANSKY

ENGINEERING

PROFESSOR WALTER J. SEELEY, DEAN OF THE COLLEGE OF ENGINEERING
135 ENGINEERING BUILDING (WEST CAMPUS)

FIRST TERM

M.E.S52 KINETICS-MECHANISM.—Motions of particles; applications of Newton's laws of motion to motions of rigid bodies; work, energy, impulse, and momentum; linkages, cams, gears, trains of mechanism. Prerequisites: statics, differential and integral calculus. June 28-July 23. Recitation daily 7:40-9:00 and 11:00-12:20. Laboratory 2:00-5:00 three days per week. 47.207. 4 s.h. MR. FULTON

M.E.S103. HEAT POWER ENGINEERING.—A short course in engineering thermodynamics with applications to power plant design, for C.E. and E.E. students only. Prerequisites: Chemistry 2, Mathematics 52, Physics 52. 9:20-10:40. 47.140. 3 s.h. MR. FULTON

C.E.S110. PLANE SURVEYING.—Use of instruments; transit, stadia, and compass surveying; determination of meridian by observation on Polaris; differential and profile leveling; setting grade stakes; calculation of bearings, latitudes, departures and areas; methods of plotting; survey and plot of portions of campus by stadia, and transit and tape; care and adjustment of instruments. Prerequisite: trigonometry; engineering drawing desirable. (Four weeks, eight hours a day.) June 14-July 11. 8:00-12:00, 1:00-5:00. 47.117. 4 s.h. (See Forestry.) MR. THARP

E.E.S123. PRINCIPLES OF ELECTRIC CIRCUITS.—A course designed especially for students in other branches of engineering, covering fundamental electric units and both alternating and direct-current circuits. Prerequisites: Mathematics 52 and Physics 52. June 28-July 23. Recitation daily 7:40-9:00 and 11:00-12:20. Laboratory 2:00-5:00 three days per week. 47.212. (This course is limited to twelve students.) 4 s.h. MR. EGERTON

SECOND TERM

M.E.S104. HEAT POWER ENGINEERING.—A continuation of M.E.S103, for C.E. and E.E. students only. Prerequisite: M.E.103. 9:20-10:40. 47.140. 3 s.h. MR. KENYON

M.E.S105. FLUID MECHANICS.—Fluid statics; kinematics of fluid flow; application of fluid dynamics theory to flow through orifices, weirs, and pipes; general principles of centrifugal pumps and turbines. Prerequisites: Mathematics 52, Physics 52. 11:00-12:20. 47.139. 3 s.h. MR. KENYON

G.E.S107. STRENGTH OF MATERIALS.—Elastic bodies under stress; flexure of simple, overhanging, fixed and continuous beams; columns; combined stresses; and energy of strain. Prerequisites: statics, differential and integral calculus. 7:40-9:00. 47.139. 3 s.h. MR. PALMER

E.E.S124. PRINCIPLES OF ELECTRIC MACHINERY.—A course designed especially for students in other branches of engineering, covering the application of the principles of course E.E.123 to alternating and direct-current machinery and associated apparatus. Prerequisite: E.E.123. July 26-August 19. Recitation daily 7:40-9:00 and 11:00-12:20. Laboratory 2:00-5:00 three days per week. 47.212. (This course is limited to twelve students.) 4 s.h. MR. EGERTON

ENGLISH

PROFESSOR CHARLES E. WARD, CHAIRMAN—323 ALLEN BUILDING (WEST CAMPUS)
PROFESSOR BENJAMIN BOYCE, DIRECTOR OF GRADUATE STUDIES—
401 ALLEN BUILDING (WEST CAMPUS)

Candidates for the Master's degree in English are expected to have had at least twelve semester hours in undergraduate courses above the Sophomore level. The Department may also require additional courses if the work of the student in his first term indicates inadequate preparation.

FIRST TERM

S1. ENGLISH COMPOSITION.—A course in the fundamentals of English Composition, oral and written, with special attention to sentence structure, syntax, common errors, etc. Frequent themes. 11:00-12:20. 10.110. 3 s.h. MR. BOWMAN

S2. ENGLISH COMPOSITION.—A continuation of course S1. 9:20-10:40. 10.110. 3 s.h. MR. MAJOR

S55. REPRESENTATIVE WRITERS.—Chaucer's Prologue to *The Canterbury Tales* and at least two tales, Shakespeare's *1 Henry IV* and *King Lear* and one other play, Jonson's *The Alchemist*, John Donne's poems, Milton's *Paradise Lost* (selections) and some of the shorter poems. 11:00-12:20. 10.107. 3 s.h. MR. MAJOR

S123. SHAKESPEARE.—About twelve plays, before 1600—mainly comedies and history plays. Occasional tests and several short papers. 9:20-10:40. 10.107. 3 s.h. MR. BOWMAN

S138. AMERICAN LITERATURE.—A survey of American literature from the Civil War to the present day. Readings in important American poetry, fiction, and criticism from Whitman to Faulkner. 7:40-9:00. 10.205. 3 s.h. MR. BUDD

S217. MILTON.—Milton's poetry and prose, with emphasis on the major poems. 1:00-2:20. 4.502. 3 s.h. MR. GILBERT

S234. AMERICAN LITERATURE OF THE TWENTIETH CENTURY.—Selected works of representative authors, including Dreiser, Edith Wharton, Mencken, Lewis, Willa Cather, O'Neill, Robinson, Frost, Eliot, Hemingway, and Faulkner. The lectures will deal primarily with literary trends as shaped by the social background. 9:20-10:40. 10.210. 3 s.h. MR. GOHDES

S239. SHAKESPEARE.—A study of the plays and poems, with attention to sources, earlier criticism, and the work of Shakespeare's contemporaries. 2:40-4:00. 4.502. 3 s.h. MR. GILBERT

S254. PROBLEMS IN THE TEACHING OF AMERICAN LITERATURE.—Conferences, class discussions, and preparation of teaching units on selected works. 11:00-12:20. 10.210. 3 s.h. MR. GOHDES

SECOND TERM

S2. ENGLISH COMPOSITION.—A continuation of course S1. 11:00-12:20. 53.307. 3 s.h. MR. REICHARD

S56. REPRESENTATIVE WRITERS.—Pope's *Poems* (selections), Fielding's *Joseph Andrews*, Keats's *Poems and Letters*, Arnold's *Selected Poetry and Prose*, Dickens's *Bleak House*, Yeats's *Collected Poems*, Shaw's *Saint Joan*, and a twentieth-century novel. 9:20-10:40. 53.318. 3 s.h. MR. BROOKS

S130. ENGLISH NOVEL.—A study of major English novels of the nineteenth century. Lectures, discussions, tests, and a term paper. 9:20-10:40. 53.307. 3 s.h. MR. REICHARD

S151. ESSENTIALS OF PUBLIC SPEAKING.—A basic course in public speaking, designed to give the student the poise and confidence necessary to think and speak freely before an audience. Particular attention is paid to the gathering and organization of speech materials and to oral presentation. 11:00-12:20. 53.316. 3 s.h. MISS SCHWERTMAN

S229. AMERICAN LITERATURE, 1800-1870.—In this course the New England writers are studied. Emerson, Thoreau, and Hawthorne are emphasized, and some attention is given also to Bryant, Longfellow, Holmes, Whittier, Lowell, and Parkman. 9:20-10:40. 53.316. 3 s.h. MR. TURNER

S252. ENGLISH LITERATURE IN THE SECOND HALF OF THE SEVENTEENTH CENTURY.—A survey of the major works in prose, poetry, and the drama from 1660-1700. 7:40-9:00. 53.234. 3 s.h. MR. WARD

S270. SOUTHERN LITERATURE.—The work of this course begins after the Civil War. Wide reading in the chief authors of the New South, with considerable attention to the social and historical background. 11:00-12:20. 53.312. 3 s.h.

MR. TURNER

FORESTRY

PROFESSOR CLARENCE F. KORSTIAN, DEAN OF THE SCHOOL OF FORESTRY AND DIRECTOR OF GRADUATE STUDIES—308 SOCIAL SCIENCE BUILDING (WEST CAMPUS)

Organized course work in the School of Forestry during the Summer Session is limited to plane surveying, forest surveying, tree identification, and forest mensuration which are required of all students entering upon two years of study in technical forestry leading to the degree of Master of Forestry (M.F.)

Qualified students may engage in thesis research in certain branches of forestry during the Summer Session with the approval of the instructor concerned and the Dean of the School of Forestry or of the Director of Graduate Studies in the case of work taken through the Graduate School.

C.E.S110. PLANE SURVEYING.—Use of instruments; transit, stadia, and compass surveying; determination of meridian by observation on Polaris; differential and profile leveling; setting grade stakes; calculation of bearings, latitudes, departures and areas; methods of plotting; survey and plot of portions of campus by stadia, and transit and tape; care and adjustment of instruments. Prerequisites: trigonometry; engineering drawing desirable. (Four weeks, eight hours a day.) 47.117. June 14-July 11. 4 s.h.

MR. THARP

S149. FOREST TREE IDENTIFICATION.—Field studies leading to the identification of trees and principal shrubs indigenous to the Piedmont and coastal plain forests of the Southeastern United States. (One week, eight hours a day.) 9.101, July 12-July 18. 1 s.h.

MR. HARRAR

S151. FOREST SURVEYING.—Application of plane surveying to forest problems; practice in making boundary, topographical and cover type surveys of forested tracts, using both intensive and extensive methods; forest mapping and surveying using aerial photos. Work includes use of transit, level, plane table, traverse board, topographic abney, slope tape, aneroid barometer, staff compass, and aerial photo interpretation equipment. Prerequisites: Civil Engineering, S110 Plane Surveying; Forestry S149. Forest-Tree Identification, or equivalents. (Four weeks, eight hours a day.) 10.322. July 19-August 15. 4 s.h.

MR. CHAIKEN

S151. FOREST MENSURATION.—Field studies in methods of measuring content and growth of trees and forest stands; practice in timber estimating, log scaling, use of mensurational instruments, and collection of basic data. (Four weeks, eight hours a day.) 9.101. August 16-September 12. 4 s.h.

MR. SCHUMACHER

S357. RESEARCH IN FORESTRY.—Open to students whose research programs for the M.F. or D.F. degree have been approved by the Dean of the School of Forestry and the instructor responsible for directing the research and whose programs for the A.M. or Ph.D. degree have been approved by the Director of Graduate Studies and the instructor in charge. (Credits and schedule to be arranged.) June 14-August 31. 2 to 12 s.h. (Not more than one semester hour of credit per week for full time schedule or one semester hour each two weeks for half-time schedule.) (Consult courses 301-302 in Announcement of School of Forestry for letter designation of branches of forestry in which research is to be conducted.) 10.308. STAFF

FRENCH

PROFESSOR B. R. JORDAN, CHAIRMAN OF THE DEPARTMENT OF ROMANCE LANGUAGES—214 CARR BUILDING (EAST CAMPUS); PROFESSOR L. B. WALTON, DIRECTOR OF GRADUATE STUDIES OF THE DEPARTMENT OF ROMANCE LANGUAGES—GRAY 207 (WEST CAMPUS)

FIRST TERM

S1. ELEMENTARY FRENCH.—June 14-July 1. 7:40-9:00 and 11:00-12:20. 53.318. 3 s.h.

MR. BARLOW

S2. ELEMENTARY FRENCH.—July 5-July 23. 7:40-9:00 and 11:00-12:20. 53.318. 3 s.h. **MR. BARLOW**

NOTE: A student enrolled in French S2 must also attend French S1, unless French 1 has been taken during Spring Semester 1955.

S3. INTERMEDIATE FRENCH.—Standard literary texts (short story, novel, drama) are used as the basis for intensive drill on the essentials of vocabulary, idiom, and construction. Extensive oral exercises are included in the reading objective. Prerequisite: French 1-2, or two units of high school French. 7:40-9:00. 53.327. 3 s.h. **MR. GRANT**

S4. INTERMEDIATE FRENCH.—Continuation of French S3. May be taken concurrently with French S3. 11:00-12:20. 53.226. 3 s.h. **MR. VINCENT**

S51. INTRODUCTION TO FRENCH LITERATURE.—Selected texts in modern French literature (fiction and drama) are approached from the literary as well as the linguistic point of view. Throughout the course there is systematic oral practice based on topics within the reading assignments. Prerequisite: French 3-4, or equivalent. 7:40-9:00. 53.326. 3 s.h. **MR. VINCENT**

S52. INTRODUCTION TO FRENCH LITERATURE.—Continuation of French S51. May be taken concurrently with French S51. 11:00-12:20. 53.327. 3 s.h. **MR. GRANT**

GEOLOGY

PROFESSOR E. WILLARD BERRY, CHAIRMAN—019 SCIENCE (EAST CAMPUS)

All classes in Geology, Term I, will begin on June 28 and continue through July 23. All classes in Geology, Term II, will begin on July 27 and continue through August 19. Students who wish to avoid paying a late registration fee must have their registration completed in advance of these dates. For registration dates see *General Registration* on page 19 of this *Bulletin*.

FIRST TERM

S51. GENERAL GEOLOGY.—This course is designed to give a general view of the surface features of the earth, their origin, structure, and materials. Illustrative materials are studied in the laboratory. Excursions may be made to neighboring points where principles of the science are studied in the field. Lectures or recitations, 8:00-11:00 daily; laboratory 2:00-5:00, Monday through Thursday, June 28-July 23. 09 Science Building, East Campus, 4 s.h. **MR. HERON**

SECOND TERM

S52. GENERAL GEOLOGY.—This course is designed to give some knowledge of the chief events of the earth's history. Excursions may be made to suitable neighboring localities. Lectures or recitations, 8:00-11:00 daily; laboratory 2:00-5:00 Monday through Thursday, July 27-August 19. 09 Science Building, East Campus. 4 s.h. **MR. HERON**

GERMAN

PROFESSOR CLEMENT VOLLMER, CHAIRMAN—106A SOCIAL SCIENCE BUILDING (WEST CAMPUS)

FIRST TERM

S1. ELEMENTARY GERMAN.—The fundamentals of grammar and pronunciation; vocabulary drill, translation, and dictation. Emphasis upon a sound reading knowledge of the language and individual achievement. June 14 to July 1. 7:40-9:00 and 11:00-12:20. 53.328. 3 s.h. **MR. WILSON**

S2. ELEMENTARY GERMAN.—The equivalent of the second college semester of German; intensive reading of graded material; grammar and vocabulary drill; dictation and sight translation. July 5-July 23. 7:40-9:00 and 11:00-12:20. 53.328. 3 s.h. **MR. WILSON**

NOTE: A student enrolled in German S2 must also attend German S1, unless German 1 has been taken during Spring Semester, 1955.

GREEK

ASSOCIATE PROFESSOR JAMES N. TRUESDALE, CHAIRMAN—123 ALLEN BUILDING
(WEST CAMPUS)

FIRST TERM

S121. GREEK LITERATURE: HOMER.—*Iliad and Odyssey*. The purpose of this course is to give a general survey of the life and civilization of the Greeks, especially to those who have never studied the language but wish to become acquainted with some of the choicest portions of the literature by the use of translations. The *Iliad* and the *Odyssey* are read in translation, and the excavations and discoveries at Troy and other cities of the Aegean age are discussed.

S121.1 2.101. 7:40-9:00. 3 s.h.

MESSRS. TRUESDALE, ROSE

S121.2 2.102. 7:40-9:00. 3 s.h.

S122. GREEK LITERATURE: THE TRAGIC POETS.—The purpose of this course is similar to that of course S121. Many of the extant plays of Aeschylus, Sophocles, and Euripides are studied in English translations. 2.101. 9:20-10:40. 3 s.h.

MR. TRUESDALE

HEALTH AND PHYSICAL EDUCATION

E. M. CAMERON, DIRECTOR, TRINITY COLLEGE AND COLLEGE OF ENGINEERING—
109 GYMNASIUM (WEST CAMPUS)

FIRST TERM

PE S57. VOLLEYBALL-TENNIS.—Gymnasium. Hours to be arranged. 1 s.h.
(M)

PE S65. HISTORY AND PRINCIPLES OF PHYSICAL EDUCATION.—A study of the objectives and principles upon which physical education is based. The history of physical education is studied in order to show the changes in objectives, principles and methods, and as an aid in the interpretation of trends. Open to Sophomores, Juniors, and Seniors. Gymnasium. 9:20-10:40. 3 s.h.

MR. AYCOCK

PE S190. PROTECTIVE PRACTICES IN PHYSICAL EDUCATION.—Training and conditioning of athletic teams and the prevention, diagnosis, and treatment of athletic injuries. Gymnasium. 1:40-3:00. 3 s.h.

MR. MONTFORT

HISTORY

PROFESSOR E. MALCOLM CARROLL, CHAIRMAN—235 ALLEN BUILDING (WEST CAMPUS);
PROFESSOR ROBERT H. WOODY, DIRECTOR OF GRADUATE STUDIES—
231 ALLEN BUILDING (WEST CAMPUS)

For admission to candidacy for a Master's degree in History the student must present a total of eighteen semester hours of prior work in History, of which at least six must be in American History if he plans to take his major work in that field. Before enrolling for thesis supervision, candidates for the Master's degree are required to complete at least three semester hours of seminar work and are strongly urged to enroll for this work in the second term of their attendance in the Summer Session. (See courses numbered 300 or above.)

FIRST TERM

S51. HISTORICAL BACKGROUND OF THE WORLD TODAY 1500-1871.—The central fact of the expansion of Europe underlies the content of the course. The chief themes are: the contest between liberty and authority in the modern state, changing economic theory and organization, and the problems of peace and war among the states, including the Western infiltration of Asia, Latin America, and Africa, and the rise of the United States as a world power. 9:20-10:40. 53.229. 3 s.h.

MR. ROPP

S99. NAVAL HISTORY AND ELEMENTARY STRATEGY.—After a review of earlier periods, attention is given to the rise of sea-power and its importance in more recent times and to naval actions, especially in the two World Wars. This course is not open to students who have N.S. 102. 7:40-9:00. 10.209. 3 s.h.

Mr. ROPP

S91. THE DEVELOPMENT OF AMERICAN DEMOCRACY TO 1865.—This course is a study of trends vital to an understanding of the United States today. The main theme is the development of American democracy. Problems of foreign policy, the growth of capitalism, political practices, social behavior, and conflicting ideals are considered in relation to this main theme. 7:40-9:00. 10.208. 3 s.h.

Mr. DeCONDE

S121. THE FOREIGN RELATIONS OF THE UNITED STATES TO 1900.—This course deals with the historical development of ideas and movements which have shaped American attitudes toward the outside world in the growth from colonial status to world power. The origins of American foreign policy, the Monroe Doctrine, Manifest Destiny, the diplomacy of the Civil War and the Spanish-American War, and the Open Door are among the major topics which are discussed. An historical introduction to the formal conduct of diplomacy is provided. 11:00-12:20. 53.225. 3 s.h.

Mr. DeCONDE

S206. THE UNITED STATES, 1920-1941.—The political, economic, and intellectual history of the twenties with special emphasis upon the origins of the New Deal; the development of the Roosevelt domestic program; and the policies leading to involvement in World War II. 7:40-9:00. 53.225. 3 s.h.

Mr. WATSON

S229. RECENT INTERPRETATIONS OF MODERN EUROPEAN HISTORY.—A course designed to develop the ability to appraise critical historical issues through the study and discussion of recent interpretations of key historical problems in Modern European History. The topics selected will vary with the needs of the class, but will include such classic controversies as the nature of the Industrial Revolution, the origins of World War I, and the Russian Revolution. 9:20-10:40. 53.225. 3 s.h.

Mr. PARKER

S301. SEMINAR IN HISTORICAL RESEARCH. 1:40-3:00 or at an hour to be arranged. 53.234. 3 s.h.

Mr. WATSON

SECOND TERM

S52. HISTORICAL BACKGROUND OF THE WORLD TODAY 1871-1940.—A continuation of History 51. 9:20-10:40. 53.229. 3 s.h.

Mr. FERGUSON

S92. THE DEVELOPMENT OF AMERICAN DEMOCRACY, 1865 TO THE PRESENT.—The emphasis is on the emergence of contemporary problems. 7:40-9:00. 53.226. 3 s.h.

Mr. STEVENS

S266. THE WESTWARD MOVEMENT IN THE UNITED STATES SINCE 1840.—The political and constitutional problems of territorial expansion and of slavery in the territories; the early transcontinental railroads; and the settlement of the Great Plains, the Rocky Mountains, and the Pacific Coast; and the expansion across the Pacific. 9:20-10:40. 53.234. 3 s.h.

Mr. STEVENS

S302. SEMINAR IN HISTORICAL RESEARCH. 1:40-3:00 or at an hour to be arranged. 53.234. 3 s.h.

Mr. HAMILTON

LATIN AND ROMAN STUDIES

PROFESSOR ROBERT S. ROGERS, CHAIRMAN—204 CARR BUILDING (EAST CAMPUS)

FIRST TERM

S111. ROMAN LITERATURE IN ENGLISH TRANSLATION.—Selected readings of Latin literature in English translation with emphasis on the drama, lyric poetry, and the varied contributions of Cicero to literature. 2.102. 9:20-10:40. 3 s.h.

Mr. ROSE

MATHEMATICS

PROFESSOR J. J. GERGEN, CHAIRMAN—134 PHYSICS BUILDING (WEST CAMPUS); PROFESSOR
J. H. ROBERTS, DIRECTOR OF GRADUATE STUDIES—230 PHYSICS
BUILDING (WEST CAMPUS)

Graduate students are invited to consult with the Director of Graduate Studies concerning their programs.

FIRST TERM

S5. COLLEGE ALGEBRA.—Advanced topics in quadratic equations, systems involving quadratics, variation, binomial theorem, progressions, inequalities, theory of equations, determinants, partial fractions, probability. This course and Mathematics 6 may be taken concurrently. Prerequisite: Mathematics 1, or one and one-half units in algebra and one unit in geometry. 7:40-9:00. 49.135. 3 s.h.

MR. CARLITZ

S6. PLANE TRIGONOMETRY.—Logarithms, right and oblique triangles, radian measure, graphs of trigonometric functions, inverse trigonometric functions, trigonometric identities and equations. Prerequisite: Must be preceded or accompanied by Mathematics 5. 9:20-10:40. 49.135. 3 s.h.

MR. THOMAS

S224. MATHEMATICAL STATISTICS.—Representation of data, averages, measures of dispersion, comparison of distributions, correlation, probability functions, normal curve and generalizations, sampling. Prerequisite: Calculus. 9:20-10:40. 49.138. 3 s.h.

MR. CARLITZ

S241. INTEGRAL EQUATIONS.—Volterra and Fredholm integral equations, Hilbert-Schmidt theory, applications to mathematical physics. 7:40-9:00. 49.138. 3 s.h.

MR. THOMAS

S389X. THESIS SEMINAR.—Supervision of individual theses in algebra, analysis and geometry. Students should consult with the Director of Graduate Studies before registering. Thesis credit only. Hours to be arranged.

MESSRS. CARLITZ, THOMAS

(Students interested in the teaching of high school mathematics are referred to Education S246, in this *Bulletin*.)

SECOND TERM

S50. PLANE ANALYTIC GEOMETRY.—Rectangular and polar coordinates, loci, straight lines, conic sections. This course and Mathematics S51 may be taken concurrently. Prerequisites: Mathematics 5 and 6. 7:40-9:00. 49.135. 3 s.h.

MR. ROBERTS

S51. CALCULUS I.—Differentiation of elementary functions, curve tracing, maxima and minima, motion, curvature, indeterminate forms. Prerequisite: Must be preceded or accompanied by Mathematics 50. 9:20-10:40. 49.135. 3 s.h.

MR. ELLIOTT

S53. CALCULUS III.—Introduction to solid analytic geometry, partial differentiation, multiple integrals, series, introduction to differential equations. Prerequisite: Mathematics 52. 9:20-10:40. 49.132. 3 s.h.

MR. ROBERTS

S389X. THESIS SEMINAR.—Supervision of individual theses in algebra, analysis, and geometry. Students should consult with the Director of Graduate Studies before registering. Thesis credit only. Hours to be arranged.

MR. ROBERTS

SOLID GEOMETRY

September 5-September 15, Monday-Thursday. 8:30-11:30. 49.135. 0 s.h.

MR. ELLIOTT

PHILOSOPHY

PROFESSOR GLENN NEGLEY, CHAIRMAN—3-1 WEST DUKE BUILDING (EAST CAMPUS);
 PROFESSOR CHARLES A. BAYLIS, DIRECTOR OF GRADUATE STUDIES—
 3-1 WEST DUKE BUILDING (EAST CAMPUS)

FIRST TERM

S48. LOGIC.—A study of the conditions of effective thinking and clear communication, and of typical sources of fallacies. Examination of the basic principles of deductive reasoning (making explicit the implications of statements) and of inductive reasoning (the formulation and testing of hypotheses on the basis of experience and experiment). Emphasis on practical illustrations and applications. 11:00-12:20. 53.314. 3 s.h. Mr. BUCK

S93. HISTORY OF PHILOSOPHY: ANCIENT AND MEDIEVAL.—A study of the major philosophers of the period with special reference to the continuity of their thought. 9:20-10:40. 53.314. 3 s.h. Mr. BUCK

SECOND TERM

S48. LOGIC.—A study of the conditions of effective thinking and clear communication, and of typical sources of fallacies. Examination of the basic principles of deductive reasoning (making explicit the implications of statements) and of inductive reasoning (the formulation and testing of hypotheses on the basis of experience and experiment). Emphasis on practical illustrations and applications. 11:00-12:20. 53.229. 3 s.h. Mr. WELSH

S91. INTRODUCTION TO PHILOSOPHY.—A systematic and historical examination of the major problems of knowledge, morals, and metaphysics. 9:20-10:40. 53.226. 3 s.h. Mr. WELSH

PHYSICS

PROFESSOR WALTER M. NIELSEN, CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES—
 119 PHYSICS BUILDING (WEST CAMPUS)

Classes in Physics S51, Term I, will begin on June 21 and continue through July 23. Classes in Physics S52, Term II, will begin on July 27 and continue through August 25. Students who wish to avoid paying a late registration fee must have their registration completed in advance of these dates. For registration dates see *General Registration* on page 19 of this *Bulletin*.

FIRST TERM

S51. GENERAL PHYSICS.—This course treats the basic principle of general physics in a more quantitative manner than Physics 1-2. It is designed for Sophomores and Juniors and meets in a thorough way the physics requirements for entrance into the study of either medicine or engineering, and is well suited for the general student. A limited number of Freshmen who present physics for entrance and who have completed the required mathematics may be admitted by permission of the instructor. (Not open to students who have completed Physics 1-2.) Prerequisite: Mathematics 5-6 or equivalent. Lecture and recitation daily, 8:30-9:50 and 10:10-11:30; laboratory three days per week, 1:00-4:00. 49.113. June 21-July 23. 5 s.h. Mr. CARPENTER

S53X. THESIS SEMINAR.—Students who are properly qualified may carry on research work under direction. Credits and hours to be arranged. STAFF

SECOND TERM

S52. GENERAL PHYSICS.—A continuation of Physics S51. Prerequisite: Physics S51. Lecture and recitation daily, 8:30-9:50 and 10:10-11:30; laboratory three days per week, 1:00-4:00. 49.113. July 27-August 25. 5 s.h. Mr. CARPENTER

S53X. THESIS SEMINAR.—For description, see First Term.

STAFF

POLITICAL SCIENCE

PROFESSOR ROBERT S. RANKIN, CHAIRMAN—308 LIBRARY (WEST CAMPUS); PROFESSOR R. R. WILSON, DIRECTOR OF GRADUATE STUDIES—405 NEW LIBRARY TOWER (WEST CAMPUS)

FIRST TERM

S61. AMERICAN GOVERNMENT AND POLITICS.—A study of the American political system, emphasizing the organization and functioning of the national government. 11:00-12:20. 53.233. 3 s.h. Mr. SIMPSON

S125. AMERICAN POLITICAL PARTIES AND PRACTICAL POLITICS.—A study of the historical development, organization, and methods of political parties in the United States. 9:20-10:40. 53.233. 3 s.h. Mr. SIMPSON

S232. JAPANESE CIVILIZATION.—Analysis of Japanese culture with reference to social and political institutions. Buddhist, Confucian, and Shinto bases of Japanese thought are examined. 9:20-10:40. 53.125. 3 s.h. Mr. BRAIBANTI

S311. SEMINAR IN FAR EASTERN POLITICS.—Open to students who have completed course 211 or its equivalent. 1:40-3:00. 53.125. 3 s.h. Mr. BRAIBANTI

SECOND TERM

S62. AMERICAN GOVERNMENT AND POLITICS.—A continuation of S61. For description See Term I. 11:00-12:20. 53.233. 3 s.h. Mr. HALL

S141. PUBLIC ADMINISTRATION.—An introduction to the role of administration in the governmental process considering principles of administrative organization, methods of administrative control, personnel and fiscal management. In general the study of the organizational and administrative problems encountered by any government agency charged with carrying out a public policy. 9:20-10:40. 53.233. 3 s.h. Mr. HALL

S209. PROBLEMS IN STATE AND COUNTY GOVERNMENT IN THE UNITED STATES.—A study of the historical development of state and county governments, their present organizations and subdivisions, and their relation to each other. Special attention is given to the position of the states in the federal union through the study of the federal-state, inter-state, and state-local relations. 7:40-9:00. 53.233. 3 s.h. INSTRUCTOR TO BE ANNOUNCED

S291. PROBLEMS OF MUNICIPAL GOVERNMENT.—An analysis of problems relating to the structural system and activities of municipalities in the United States. 9:20-10:40. 53.314. 3 s.h. INSTRUCTOR TO BE ANNOUNCED

PSYCHOLOGY

PROFESSOR ELIOT H. RODNICK, CHAIRMAN—106 BIVINS BUILDING (EAST CAMPUS)
PROFESSOR KARL ZENER, DIRECTOR OF GRADUATE STUDIES—205
PSYCHOLOGY LABORATORY BUILDING (EAST CAMPUS)

For admission to candidacy for a Master's Degree in Psychology, the student must present a total of twelve semester hours in Psychology beyond the Introductory Course, at least six semester hours of which must be taken in senior-graduate courses.

Further details concerning the program of studies in Psychology may be obtained from the Director of Graduate Studies in Psychology.

FIRST TERM

S91. INTRODUCTORY PSYCHOLOGY.—An introduction to the facts, principles, and problems of normal adult psychology through a study of psychological methods as applied to motivation, emotions, perception, sensation, thinking, memory, learning, individual differences, and personality. 9:20-10:40. 53.307. 3 s.h. Mr. KIMBLE

S211. THE PROBLEM CHILD (Also Education S211).—Study of problem behavior and adjustment in children with emphasis on the causes and treatment of conduct and neurotic disorders of the maladjusted child. Particular attention will be paid to mental hygiene principles in the handling of problem children in school and home. 11:00-12:20. 53.125. 3 s.h. Mr. BORSTELMANN

S232. PERSONALITY AND PHYSICAL HANDICAP.—Survey of the psychological factors underlying adjustment to physical disabilities, with particular stress upon personality, emotional and social attributes. Selected case studies will be used to illustrate the integration of such factors in adjusting to home, school, and hospital settings. These cases will stress the psychological factors which hinder learning and retraining procedures. Discussion will center about psychological techniques to produce more effective progress in rehabilitation. 7:40-9:00. 2.105. 3 s.h.

MR. GARMEZY

S303. RESEARCH.—Students who are properly qualified may carry on research work under direction. Hours to be arranged. 3 s.h.

STAFF

SECOND TERM

S304. RESEARCH.—Students who are properly qualified may carry on research work under direction. Hours to be arranged. 3 s.h.

STAFF

RELIGION

PROFESSOR JAMES CANNON, DEAN OF THE DIVINITY SCHOOL—110 DIVINITY SCHOOL (WEST CAMPUS); PROFESSOR H. E. MYERS, CHAIRMAN OF THE DEPARTMENT OF RELIGION—108 GRAY (WEST CAMPUS); ASSOCIATE PROFESSOR JAMES H. PHILLIPS, DIRECTOR OF UNDERGRADUATE STUDIES IN RELIGION—106 GRAY (WEST CAMPUS); PROFESSOR H. SHELTON SMITH, DIRECTOR OF GRADUATE STUDIES IN RELIGION—308 DIVINITY SCHOOL (WEST CAMPUS)

THE DEPARTMENT OF RELIGION

FIRST TERM

S51. THE ENGLISH BIBLE.—Survey of the contents of the Old Testament books in the light of their origin in the history and religion of the Hebrew people. 7:40-9:00. 2.01. 3 s.h.

MR. OSBORN

S52. THE ENGLISH BIBLE.—A study of the personalities and literature of the New Testament against their Jewish, Hellenistic and Roman background. 9:20-10:40. 2.01. 3 s.h.

MR. OSBORN

S91. AN INTRODUCTION TO CHRISTIAN ETHICS.—A study of the theistic interpretation of man's moral experience, based upon the world-view of the Bible, as contrasted with other classical and contemporary moral philosophies. In the survey of the ethical religion of the Bible special attention is given to the Hebrew prophets, to Jesus and the Apostle Paul. 11:00-12:20. 2.02. 3 s.h.

MR. PRICE

S114. THE LIFE AND TEACHINGS OF JESUS.—This course considers the period in which Jesus lived, the record of his life, and the meaning of his teachings as recorded in the Synoptic Gospels. *Students may not receive credit for S114 and S101.* 9:20-10:40. 2.02. 3 s.h.

MR. PRICE

SECOND TERM

S51. THE ENGLISH BIBLE.—Survey of the contents of the Old Testament books in the light of their origin in the history and religion of the Hebrew people. 7:40-9:00. 2.01. 3 s.h.

MR. MANSCHRECK

S52. THE ENGLISH BIBLE.—A study of the personalities and literature of the New Testament against their Jewish, Hellenistic and Roman background. 11:00-12:20. 2.02. 3 s.h.

MR. PHILLIPS

S101. THE SOCIAL TEACHINGS OF THE PROPHETS AND JESUS.—A study of the social teachings of the Old Testament prophets and of the social ideas of Jesus as they appear in the four gospels. *Not open for credit to students who take S114.* 9:20-10:40. 2.01. 3 s.h.

MR. PHILLIPS

S130. CHRISTIAN ETHICS IN HISTORY AND MODERN LIFE.—A historical study of how Christians from New Testament times to the present have interpreted and expressed their ethical convictions. The aim of the course will be to provide historical depth for evaluating contemporary ethical issues. Prerequisite: Religion 91 or 3 s.h. in Bible. 9:20-10:40. 2.02. 3 s.h. MR. MANSCHRECK

THE DIVINITY SCHOOL

Class enrollments will be controlled as occasion may arise so as to secure a fairly even distribution among the courses offered in each term.

FIRST TERM

S108 (DS). COMPARATIVE RELIGION I.—The ideas of God, sin, and salvation in the religions of the world. 11:00-12:20. 3.205. 3 s.h. MR. FOSTER

S170 (DS). SEMINAR IN PASTORAL CARE.—For students preparing for full-time pastoral ministry, hospital chaplaincy, industrial chaplaincy, ministry to older people, or work with young people. 9:20-10:40. 3.205. 3 s.h. MR. DICKS

S180 (DS). CHURCH MUSIC.—A study of hymnology, song leading, and problems of the modern church choir. 1:40-3:00. Chapel Basement. 3 s.h. MR. BARNES

S199 (DS). THE AMERICAN SOCIAL GOSPEL.—A study of Protestant social thought and action in America since 1865. 7:40-9:00. 3.205. 3 s.h. MR. SMITH

SECOND TERM

S105 (DS). THE LIFE OF PAUL.—A study of Paul's life on the basis of Acts and the letters of Paul, emphasizing the permanent values in Paul's work and his contribution to the world. 11:00-12:20. 3.205. 3 s.h. MR. MYERS

S125 (DS). PSYCHOLOGY AND THEOLOGY.—An inquiry into the relations of psychological and theological interpretations of man. 1:40-3:00. 3.210. 3 s.h. MR. RICHEY

S194 (DS). INTRODUCTION TO CHRISTIAN SOCIAL ETHICS.—Christian norms for social policy and their application to the domestic, economic, political, and racial patterns of modern culture. 7:40-9:00. 3.205. 3 s.h. MR. LACY

S310 (DS). OLD TESTAMENT PROPHECY.—The prophetic movement in Israel with special emphasis on the prophets of the eighth century B.C. 9:20-10:40. 3.205. 3 s.h. MR. STINESPRING

SOCIOLOGY

PROFESSOR HOWARD E. JENSEN, CHAIRMAN—215E SOCIAL SCIENCE BUILDING (WEST CAMPUS); PROFESSOR HORNELL HART, DIRECTOR OF GRADUATE STUDIES—215D SOCIAL SCIENCE BUILDING (WEST CAMPUS)

The Department of Sociology offers graduate work leading to the A.M. and Ph.D. degrees. Before undertaking advanced work in this department, a student must have completed a minimum of twelve semester hours of approved preliminary courses in the field, and twelve additional semester hours in the field or in related work. A student who is deficient in the minimum required work will be asked to take additional undergraduate courses agreed upon in conference with the Director of Graduate Studies.

Candidates for advanced degrees in Sociology usually take minor work in Psychology, Economics, Political Science, Education, History, or Religion. Detailed requirements for the minor work, and for majors in other departments who wish to present Sociology as minor work, may be obtained from the Director of Graduate Studies.

FIRST TERM

S91-92. GENERAL SOCIOLOGY.—An introduction to the scientific study of social life, its origin, evolution, and organization as illustrated by the study of a number of concrete social problems. 7:40-9:00 and 11:00-12:20. 10.215. 6 s.h. MRS. WHITRIDGE

(Course 91-92, or 101, or 93, or 94 is prerequisite to all other courses in the department. Course 91-92, or 101 is required of all students majoring in the department.)

S233. RURAL SOCIOLOGY.—The sociology of the land; peasant and folk societies and cultures; patterns of rural settlement like the farm, the plantation, the ranch and others; rural personality types; the changing character of rural life; rural problems. 7:40-9:00. 10:216. 3 s.h. MR. THOMPSON

S238. RACE AND CULTURE.—A study of the nature of race and of the relationships and problems of race. 11:00-12:20. 10:216. 3 s.h. MR. THOMPSON

SECOND TERM

S250. MARRIAGE AND THE FAMILY.—An analysis of contemporary marriage and family experiences with emphasis on its functions, problems, resources and values. Not open to students who have received credit for Religion 170. 11:00-12:20. 53.327. 3 s.h. MR. HART

S286. SOCIAL ETHICS.—A study of sociological fundamentals underlying ethics, including the controversy between materialistic and idealistic social thinkers, the nature of personalities and of social organization, the nature of social values, types of social interaction and their effects upon general social values, underlying principles and facts of social change, and the bearings of all these upon certain social problems. 7:40-9:00. 53.327. 3 s.h. MR. HART

SPANISH

PROFESSOR BRADY R. JORDAN, CHAIRMAN OF DEPARTMENT OF ROMANCE LANGUAGES—214 CARR BUILDING (EAST CAMPUS); PROFESSOR L. B. WALTON, DIRECTOR OF GRADUATE STUDIES OF THE DEPARTMENT OF ROMANCE LANGUAGES—207 GRAY (WEST CAMPUS); PROFESSOR GIFFORD DAVIS, DIRECTOR OF THE SCHOOL OF SPANISH STUDIES—201 CARR BUILDING (EAST CAMPUS)

FIRST TERM

(Students enrolling in Spanish courses numbered above S1 and S2 should read carefully the statement on the School of Spanish Studies, page 29.)

S1. ELEMENTARY SPANISH.—Essentials of grammar, reading of appropriate material, drill in the spoken language. June 14-July 1. 7:40-9:00 and 11:00-12:20. 16.108. 3 s.h. MR. FEIN

S2. ELEMENTARY SPANISH.—Continuation of S1. July 5-23. 7:40-9:00 and 11:00-12:20. 16.108. 3 s.h. MR. FEIN

NOTE: A student enrolled in S2 must also attend S1 unless he has passed Spanish 1 in the immediate spring semester.

S3. INTERMEDIATE SPANISH.—Reading in standard literary text; review of verbs and syntax; exercises in the spoken language based on the reading text; constant use of Spanish as the medium of instruction. 7:40-9:00. 16.110. 3 s.h. MR. DAVIS

S4. INTERMEDIATE SPANISH.—Reading of modern short stories and novels, with emphasis on achievement of ability to read without translation; continued oral-aural drill; idiom study and grammar review as necessary. May be taken concurrently with Spanish S3. 11:00-12:20. 16.110. 3 s.h. MR. TORRE

S65. INTRODUCTION TO MODERN SPANISH LITERATURE.—Study of representative masterpieces; brief lectures in Spanish; collateral reading of critical commentaries. 7:40-9:00. 53.229. 3 s.h. MR. TORRE

S68. INTRODUCTION TO SPANISH-AMERICAN LITERATURE.—Study of typical works, chiefly of the modern period; brief lectures on literary, social and cultural backgrounds and tendencies; collateral readings and reports. May be taken concurrently with Spanish S65. 11:00-12:20. 53.307. 3 s.h. MR. LÓPEZ-MORILLAS

S174. CONVERSATION AND PRONUNCIATION.—The aim of this course is two-fold: to improve the student's pronunciation and to increase his power of oral expression. The elements of Spanish phonetics will be presented in conjunction with practical exercises. Practice in oral expression will be afforded by class discussion of selected topics. 9:20-10:40. 2.209. 3 s.h. MR. PREDMORE

S265. GOLDEN AGE LITERATURE: CERVANTES.—The life and thought of Cervantes with special emphasis on his *Quijote*. 11:00-12:20. 2.209. 3 s.h. MR. PREDMORE

S274. TWENTIETH CENTURY LITERATURE.—A study of the literary and intellectual history of the years from the Spanish-American War to the Second Republic. 7:40-9:00. 53.234. 3 s.h. MR. LÓPEZ-MORILLAS

ZOOLOGY

PROFESSOR I. E. GRAY, CHAIRMAN, 217 BIOLOGY BUILDING; PROFESSOR K. M. WILBUR,
DIRECTOR OF GRADUATE STUDIES, 328 BIOLOGY BUILDING (WEST CAMPUS)

All classes in Zoology offered on Duke Campus in Term I will begin on June 28 and continue through July 23. All classes in Zoology offered at Duke Marine Laboratory at Beaufort, North Carolina, in Term I will begin on June 15 and continue through July 23. All classes in Zoology offered on Duke Campus in Term II will begin on July 27 and continue through August 19. All classes in Zoology offered at Duke Marine Laboratory, Beaufort, North Carolina, in Term II will begin on July 27 and continue through August 31. Students who wish to avoid paying a late registration fee must have their registration completed in advance of these dates. For registration dates see *General Registration* page 19 of this *Bulletin*.

For admission to candidacy for a Master's degree in Zoology, a student should have completed an undergraduate major in Zoology (courses in General Science and Botany are not counted as a part of a Zoology major). This normally amounts to about twenty-four semester hours, which should be distributed among various fields of Zoology, and must include Vertebrate Zoology or Comparative Anatomy, Physiology, and Embryology, passed with creditable grades. A candidate should also have completed at least one year of Chemistry. Work for the degree will require eighteen hours in advanced courses in Zoology, and six hours in another department for a minor, in addition to a thesis. Before registration for a degree, students should confer with the Director of Graduate Studies for the Department. Students not candidates for a degree may take courses offered if they have necessary prerequisites but may not count them toward a degree until an undergraduate major has been completed.

FIRST TERM (Duke Campus)

S1. ANIMAL BIOLOGY.—The principles of biology as applied to animals. Lecture, recitation and laboratory daily, 8:00-12:00, 2:00-4:00. 9.113. June 28-July 23. 4 s.h. MR. VERNBERG

S53. COMPARATIVE VERTEBRATE ANATOMY.—A study of the anatomy and evolution of the organ systems of vertebrates. Prerequisites: Zoology 1, 2. Lecture, recitation, and laboratory daily, 8:00-12:00, 2:00-4:00. 9.120. June 28-July 23. 4 s.h. MR. BAILEY

S353. RESEARCH. Hours to be arranged. 2-6 s.h.

STAFF

FIRST TERM (Duke Marine Laboratory at Beaufort, North Carolina)

S274. MARINE INVERTEBRATE ZOOLOGY.—A study of invertebrate animals that occur in the Beaufort region. A number of field trips will be made to a variety of habitats to study, collect, and classify animals in their natural environments. The structure and habits of living invertebrates as well as their behavior under certain experimental conditions will be studied in the laboratory. 6 s.h. MR. BOOKHOUT

S353. RESEARCH. Hours to be arranged. 2-6. s.h.

STAFF

SECOND TERM (Duke Campus)

S2. GENERAL ZOOLOGY.—A brief survey of the animal kingdom. Lecture, recitation and laboratory daily, 8:00-12:00, 2:00-4:00. 9.113. July 27-August 19. 4 s.h.

INSTRUCTOR TO BE ANNOUNCED

S92. GENERAL EMBRYOLOGY.—The fundamental principles of embryology as illustrated in frog, chick, and mammal. Prerequisite: Zoology 53. Lectures, recitations and laboratory daily, 8:00-12:00, 2:00-4:00. 9.120. July 27-August 19. 4 s.h.

MR. NACE

S353. RESEARCH.—Hours to be arranged. 2-6 s.h.

STAFF

SECOND TERM (Duke Marine Laboratory, Beaufort, North Carolina)

S203. MARINE ECOLOGY.—A study of marine animals in relation to environment. Consideration of environmental factors, succession, rhythms, communities, intraspecific and interspecific relations, productivity, conservation, problems, etc., concerned with animal life in the ocean. Lectures, reviews, conferences, field and laboratory work. 6 s.h.

MR. GRAY

S245. RADIATION BIOLOGY.—An introductory course which will deal with the basic physical, chemical, and biological principles upon which the study of the biological effects of radiation is based. It will consist of three sections: Radiation Physics, Radiation Biochemistry, and Radiation Physiology. Laboratory work using various radiation sources and a number of organisms will give an opportunity to investigate these principles at first hand. Special lecturers will include members of the staff of the Biology Division of the Oak Ridge National Laboratory. Prerequisites: Mathematics through trigonometry, college physics, inorganic and organic chemistry. 6 s.h.

MR. WILBUR

S353. RESEARCH.—Hours to be arranged. 2-6 s.h.

STAFF

DUKE UNIVERSITY SUMMER SESSION
APPLICATION FOR DORMITORY ROOM

Application for room reservations and all correspondence concerning such reservation should be addressed to: Housing Bureau, Duke Station, Durham, North Carolina.

Room assignment will be made only upon the applicant's admission to the Summer Session, as certified by the Summer Session Office, and upon payment of full room rent. Applicants who expect to be in residence for longer than six weeks are urged to make advance reservation for the entire period and thus avoid, to the extent that housing arrangements make it practicable, the necessity of moving from one room to another during the full term of residence.

Rental fees . . . etc. These fees are refundable provided the applicant cancels his room reservation at least fifteen (15) days before the opening of the session for which he is applying for admission.

If the applicant requests a double room but gives no preference of roommate, Bureau officials will try to assign a roommate of seemingly congenial interests. It is understood, however, that the responsibility for getting and keeping a roommate rests with the applicant; otherwise, it will be necessary for him to move to a single room or to make the indicated financial adjustment.

Name..... Date.....

Present address.....

Permanent address.....

(Address to which mail always will be forwarded)

Present position.....

Address.....

Academic degrees earned.....

(College conferring)

(Degree)

(Date conferred)

If you are in college now, give name of institution and your class:

(Name of college)

(Class)

Department of your major subject.....

Will you be writing a thesis this summer? Yes..... No.....

Date of your expected arrival at Duke for the Summer Session.....

Number of weeks you expect to remain.....

Type of room desired: Single..... Double.....

Name of preferred roommate, if any.....

Address.....

DIRECTIONS TO SUMMER SESSION APPLICANTS

All applicants for Summer Session courses who are not now in residence at Duke University must fill out accurately and in detail the form below and return it to the Director of the Summer Session. Preference in enrollment will be given to persons returning the form promptly, but a place in a particular course cannot be assured until all fees are paid. Undergraduates or graduates who are enrolled in a university or college other than Duke University and who are seeking to transfer summer session credits to the college in which they are matriculated should request a course approval form to be certified by their dean or registrar. Persons applying for admission to the Graduate School of Duke University should write the Dean of the Graduate School for the necessary forms in addition to completing the form below.

No. Approved Date.....

APPLICATION FOR ENROLLMENT IN THE DUKE UNIVERSITY SUMMER SESSION

Mr., Mrs., Miss.....
(Please Print)

Street address, Rural route, or P. O. Box.....

Post Office..... State.....

Nationality..... Race.....

Please reserve a place for me in the following courses listed in the Summer Session Bulletin.

Department	No. of Course	Title of Course
------------	---------------	-----------------

.....
.....
Name and address of High School from which you graduated.....

.....
Have you attended a college? Yes..... No.....

Name and address of college.....

Highest degree held:.....

Are you a candidate for a degree? Yes..... No.....

If yes, for which degree?.....

In what school or college of Duke University are you seeking to enroll (check one):

- Undergraduate credits*
- ☐ Trinity College (men)
 - ☐ The Woman's College
 - ☐ College of Engineering
 - ☐ Special or unclassified
 - ☐ Credits for transfer

- Graduate credits*
- ☐ Graduate School, Arts and Sciences
 - ☐ Divinity School
 - ☐ School of Forestry
 - ☐ Special or unclassified
 - ☐ Credits for transfer

Have you applied for admission to the Graduate School?.....

Are you at present a college student?..... If so, where?.....

..... What class?.....

Are you a full-time teacher?.....

Name and address of school.....

Teaching position.....

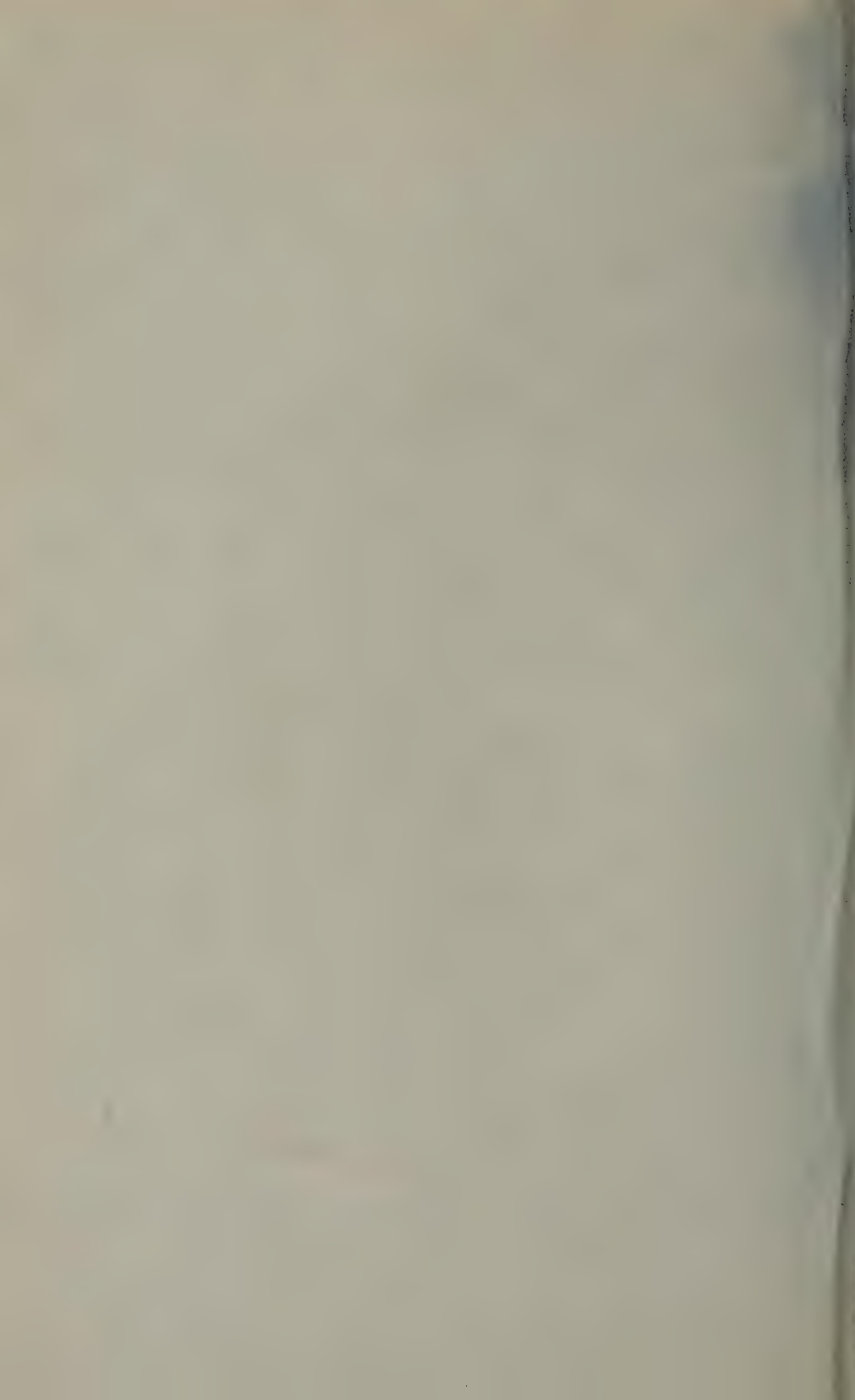
Total number years teaching experience.....

Will your fees be paid by:

- (a) Yourself.....
- (b) Veterans' Administration, Public Law 346 or 16.....
- (c) Funds received under Public Law 550.....

Have you attended previous Summer Sessions at Duke: Yes..... ;

Years..... ; No.....



BULLETIN
OF
DUKE UNIVERSITY



**The Graduate School
of Arts and Sciences**

ANNOUNCEMENTS FOR 1955-56

Annual Bulletins

For GENERAL BULLETIN of Duke University, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF UNDERGRADUATE INSTRUCTION, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF THE COLLEGE OF ENGINEERING, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF THE GRADUATE SCHOOL OF ARTS AND SCIENCES, apply to *The Dean of the Graduate School*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF FORESTRY, apply to *The Dean of the School of Forestry*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF LAW, apply to *The Dean of the School of Law*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF MEDICINE, apply to *The Dean of the School of Medicine*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF NURSING, apply to *The Dean of the School of Nursing*, Duke University, Durham, N. C.

For BULLETIN OF THE DIVINITY SCHOOL, apply to *The Dean of the Divinity School*, Duke University, Durham, N. C.

For BULLETIN OF THE SUMMER SESSION, apply to *The Director of the Summer Session*, Duke University, Durham, N. C.

Published by Duke University monthly except in July, August, September, and December. Entered as second-class matter March 25, 1929, at the Post Office of Durham, North Carolina, under the Act of August 24, 1912.

BULLETIN
OF
DUKE UNIVERSITY

THE GRADUATE SCHOOL
OF ARTS AND SCIENCES



1954-1955
ANNOUNCEMENTS FOR 1955-1956

DURHAM, NORTH CAROLINA
1955

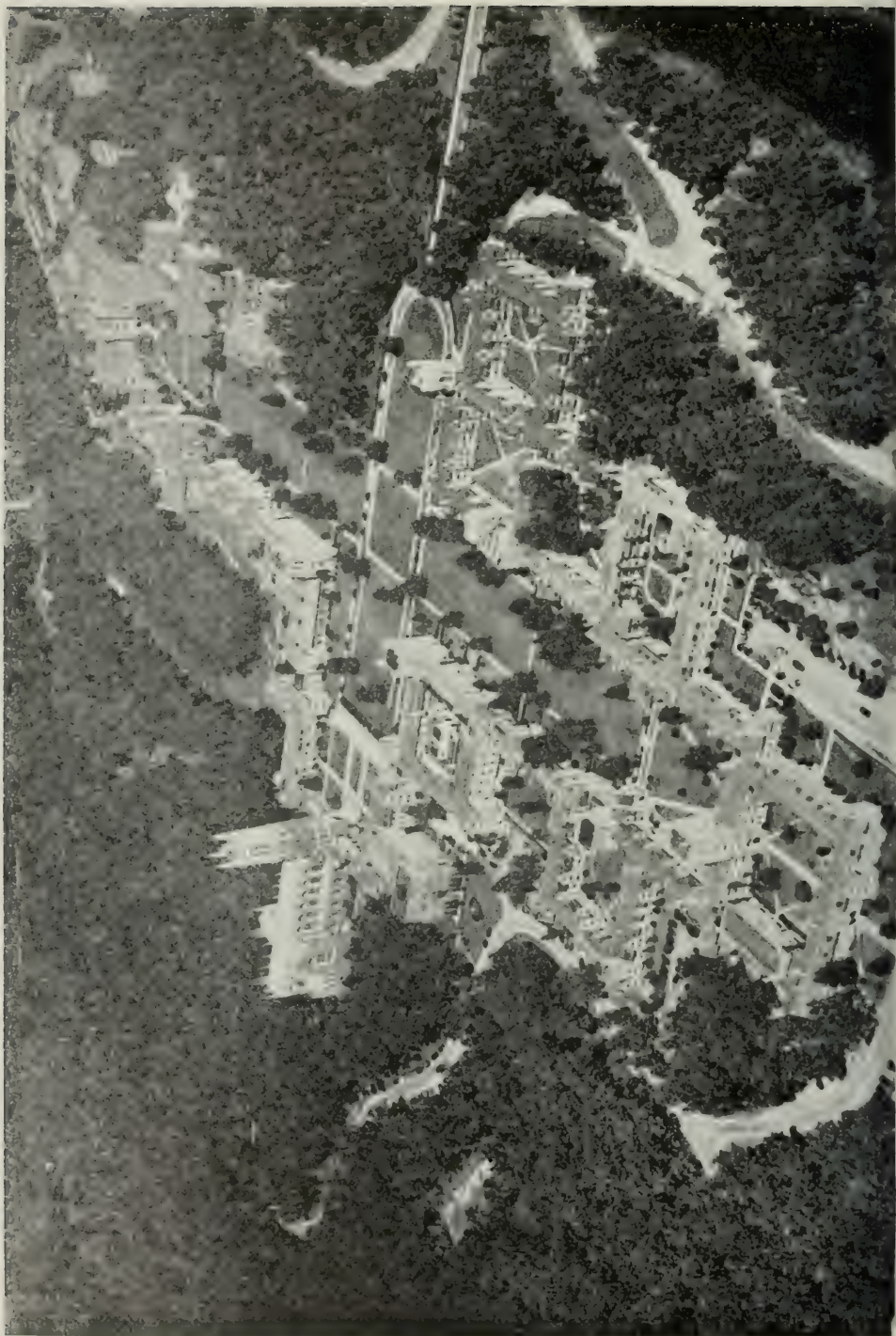


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Calendar of the Graduate School



Summer Session 1955

1955

- May 3-4 Tuesday, Wednesday—Advance registration for current students.
- June 14 Tuesday—Registration of students for Summer Session, first term.
- June 15 Wednesday—Instruction begins for Summer Session, first term.
- July 8 Friday—French examinations for candidates for graduate degrees, 4:00 P.M., 114 Physics Building. Candidates register in the Graduate School Office not later than July 1.
- July 13 Wednesday—Final date for filing with the Dean of the Graduate School statement of intention to complete Master's degree requirements during the first term, and for filing thesis title.
- July 23 Saturday—First term of Summer Session ends.
- July 26 Tuesday—Registration of students for second term of Summer Session.
- July 27 Wednesday—Instruction begins for second term of Summer Session.
- Aug. 1 Monday—Final date for filing with the Dean of the Graduate School statement of intention to complete Master's degree requirements during the second term, and for filing thesis title.
- Aug. 31 Wednesday—Second term of Summer Session ends.

Academic Year 1955-1956

- Sept. 19 Monday—Reading, Vocabulary and Grammar Tests in French and German. French, 1:00 P.M., German, 2:00 P.M., both in 114 Physics Building.
- Sept. 19-21 Monday through Wednesday—Registration of graduate students for first semester.
- Sept. 22 Thursday—Classes begin.
- Oct. 15 Saturday—Last day for submitting thesis subjects for the degrees of Doctor of Philosophy and Doctor of Education.
- Oct. 24-29 German examinations for candidates for graduate degrees. Candidates register in the Graduate School Office for these examinations not later than October 17.
- Nov. 15 Tuesday—Last day for submitting thesis subjects for the degrees of Master of Arts, Master of Education, and Master of Arts in Teaching.
- Nov. 23 Wednesday, 5:00 P.M.—Thanksgiving recess begins.
- Nov. 28 Monday, 8:00 A.M.—Classes are resumed.
- Dec. 11 Sunday—Founders Day.
- Dec. 17 Saturday, 12:30 P.M.—Christmas recess begins.

1956

- Jan. 3 Tuesday, 8:00 A.M.—Classes are resumed.
- Jan. 7-16 Reading period.
- Jan. 10-11 Tuesday and Wednesday—Registration of resident graduate students for second semester.
- Jan. 11 Wednesday—French examinations for candidates for graduate degrees, 4:00 P.M., place to be announced. Candidates register in the Graduate School Office for these examinations not later than January 4.
- Jan. 17 Tuesday—Final examinations begin.
- Jan. 27 Friday—Final examinations end.
- Jan. 31 Tuesday—Registration for second semester of students not in residence during first semester.
- Feb. 1 Wednesday—Classes are resumed.
- March 1 Thursday—Last day for applying for University fellowships, graduate assistantships, and graduate scholarships.
- March 9 Friday—Students who expect to receive advanced degrees in June must notify the Graduate School Office before this date.
- March 24 Saturday, 12:30 P.M.—Spring recess begins.
- April 2 Monday, 8:00 A.M.—Classes are resumed.
- April 6 Monday—Last day for submitting theses for degrees of Doctor of Philosophy and Doctor of Education.
- April 13 Friday—French examinations for candidates for graduate degrees, 4:00 P.M., place to be announced. Candidates register in the Graduate School Office for these examinations not later than April 4.
- April 30-May 14 Reading period.
- May 1 Tuesday—Last day for submitting theses for degrees of Master of Arts, Master of Education, and Master of Arts in Teaching.
- May 1 Tuesday—Last day for paying special dissertation fee of \$50.00 required of candidates for the degrees of Doctor of Philosophy and Doctor of Education.
- May 7-12 German examinations for candidates for graduate degrees. Candidates register in the Graduate School Office for these examinations not later than April 30.
- May 21 Monday—Final examinations begin.
- May 31 Thursday—Final examinations end.
- June 2 Saturday—Commencement begins.
- June 3 Sunday—Commencement sermon.
- June 4 Monday—Graduating Exercises.

1955

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Officers of Administration



ARTHUR HOLLIS EDENS, Ph.D., LL.D. <i>President of the University</i>	2138 Myrtle Drive
WILLIAM HANE WANNAMAKER, A.M., Litt.D. <i>Vice-Chancellor of the University</i>	615 West Campus
PAUL MAGNUS GROSS, Ph.D. <i>Vice-President in the Division of Education and Dean of the University</i>	3816 Dover Road, Hope Valley
*CHARLES SACKETT SYDNOR, M.A. (Oxon.), Ph.D., Litt.D., LL.D. <i>Dean of the Graduate School of Arts and Sciences</i>	116 Pinecrest Road
MARCUS EDWIN HOBBS, Ph.D. <i>Dean of the Graduate School of Arts and Sciences</i>	115 Pinecrest Road
CHARLES EDWARD JORDAN, A.B., LL.D. <i>Vice-President in the Division of Public Relations and Secretary of the University</i>	813 Vickers Avenue
HERBERT JAMES HERRING, A.M., LL.D. <i>Vice-President in the Division of Student Life and Dean of Trinity College</i>	2010 Myrtle Drive
ALFRED SMITH BROWER, A.B. <i>Business Manager and Comptroller</i>	614 West Campus
CHARLES BLACKWELL MARKHAM, A.M. <i>Treasurer of the University</i>	204 Dillard Street
BENJAMIN EDWARD POWELL, Ph.D. <i>Librarian</i>	3609 Hathaway Road, Hope Valley
†CHARLES EUGENE WARD, Ph.D. <i>Director of Admissions, the Graduate School</i>	2429 Perkins Road
EARL THOMAS HANSON, Ph.D. <i>Director of Admissions, the Graduate School</i>	613 Swift Avenue
SARA ANNE INMAN, B.S. <i>Administrative Assistant</i>	1100 Oakland Avenue

EXECUTIVE COMMITTEE OF THE GRADUATE FACULTY

MARCUS EDWIN HOBBS, Ph.D. <i>Dean of the Graduate School of Arts and Sciences, ex officio</i>
ROBERT TAYLOR COLE, Ph.D.
JOHN JAY GERGEN, Ph.D.
GLENN NEGLEY, Ph.D.
WALTER MCKINLEY NIELSEN, Ph.D.
BENJAMIN ULYSSES RATCHFORD, Ph.D.
CHARLES EUGENE WARD, Ph.D.

* Died March 2, 1954.

† Resigned, September 1, 1954.

Instructional Staff



MEMBERS OF THE GRADUATE SCHOOL FACULTY

The date denotes the first year of service at Duke University.

DONALD KEITH ADAMS, (1931) Ph.D. <i>Professor of Psychology</i>	2508 Cornwallis Road
LEWIS EDWARD ANDERSON, (1936) Ph.D. <i>Professor of Botany</i>	2020 Sunset Avenue
ROGER FABIAN ANDERSON, (1950) Ph.D. <i>Associate Professor of Forest Entomology</i>	2528 Perkins Road
JOSEPH RANDLE BAILEY, (1946) Ph.D. <i>Assistant Professor of Zoology</i>	2117 Sprunt St.
*KATHERINE MAY BANHAM, (1946) Ph.D. <i>Associate Professor of Psychology</i>	115 North Dillard Street
PAULL FRANKLIN BAUM, (1922) Ph.D. <i>James B. Duke Professor of English</i>	112 Pinecrest Road
CHARLES A. BAYLIS, (1952) Ph.D. <i>Professor of Philosophy</i>	601 East Markham Avenue
WILLIAM WALDO BEACH, (1946) B.D., Ph.D. <i>Professor of Christian Ethics</i>	100 Vineyard Street
JOSEPH WILLIS BEARD, (1937) M.D. <i>Professor of Surgery in Charge of Experimental Surgery; Associate Professor of Virology</i>	Route 3, Hillsboro, N. C.
ROLAND FREDERICK BECKER, (1951) Ph.D. <i>Associate Professor of Anatomy</i>	1010 Monmouth Avenue
FREDERICK BERNHEIM, (1930) Ph.D. <i>Professor of Pharmacology</i>	Woodridge Drive
MRS. MARY LILIAS CHRISTIAN BERNHEIM, (1930) Ph.D. <i>Associate Professor of Biochemistry</i>	Woodridge Drive
LUCIUS AURELIUS BIGELOW, (1929) Ph.D. <i>Professor of Chemistry</i>	131 Pinecrest Road
WILLIAM DWIGHT BILLINGS, (1952) Ph.D. <i>Associate Professor of Botany</i>	708 Louise Circle
MARTIN LEE BLACK, JR., (1930) M.B.A., C.P.A. <i>Professor of Accounting</i>	135 Pinecrest Road
†MARTIN M. BLOCK, (1952) Ph.D. <i>Assistant Professor of Physics</i>	927 Lambeth Circle
HUGO LEANDER BLOMQUIST, (1920) Ph.D. <i>Professor of Botany</i>	922 Demerius Street
EDWARD CLAUDE BOLMEIER, (1948) Ph.D. <i>Professor of Education</i>	217, Faculty Apartments
CAZLYN GREEN BOOKHOUT, (1935) Ph.D. <i>Professor of Zoology</i>	1307 Alabama Avenue

* Absent on sabbatical leave, spring semester, 1954-55.

† Absent on leave, 1954-55.

- LLOYD BORSTELMANN, (1953) Ph.D.
Assistant Professor of Psychology 305 Francis Street
- BENJAMIN BOYCE, (1950) Ph.D.
Professor of English 1200 Dwire Place
- CHARLES KILGO BRADSHAW, (1939) Ph.D.
Associate Professor of Chemistry 118 Pinecrest Road
- RALPH J. D. BRAIBANTI, (1953) Ph.D.
Associate Professor of Political Science 2614 Stuart Drive
- ROBERTA FLORENCE BRINKLEY, (1947) Ph.D.
Professor of English East Campus
- FRANCES CAMPBELL BROWN, (1931) Ph.D.
Associate Professor of Chemistry 1205 Dwire Place
- *WILLIAM HUGH BROWNLEE, (1948) Th.M., Ph.D.
Assistant Professor of Old Testament 2809 Fairview Road
- ROGER CONANT BUCK, (1953) B. Phil. (Oxon.)
Assistant Professor of Philosophy 1017½ Gloria Avenue
- LEONARD CARLITZ, (1932) Ph.D.
Professor of Mathematics 2303 Cranford Road
- JOHN WINDER CARR, JR., (1926) Ph.D.
Professor of Education 926 Monmouth Avenue
- EBER MALCOLM CARROLL, (1923) Ph.D.
James B. Duke Professor of History K1C, University Apartments
- ALLAN MURRAY CARTTER, (1952) Ph.D.
Assistant Professor of Economics 1208 Dwire Place
- WILLIAM H. CARTWRIGHT, (1951) Ph.D.
Professor of Education 942 Lambeth Circle
- JUAN RODRÍGUEZ, (1947) Doctor en Filosofía y Letras
Associate Professor of Romance Languages 2511 Perkins Road
- BENJAMIN GUY CHILDS, (1924) M.A.
Professor of Education 1019 West Markham Avenue
- †KENNETH WILLIS CLARK, (1931) Ph.D.
Professor of New Testament Language and Literature 1308 West Markham Avenue
- ROMANE LEWIS CLARK, (1953) Ph.D.
Assistant Professor of Philosophy 10, 5th Street and Markham Avenue
- PAUL HIBBERT CLYDE, (1937) Ph.D.
Professor of History 1311 Carolina Avenue
- LOUIS DAVID COHEN, (1946) Ph.D.
Associate Professor of Psychology; Assistant Professor of Clinical Psychology 913 Monmouth Avenue
- ROBERT TAYLOR COLE, (1935) Ph.D.
James B. Duke Professor of Political Science 7 Sylvan Road
- GEORGE H. COLLIER, (1951) Ph.D.
Assistant Professor of Psychology 510 East Club Boulevard
- ROBERT M. COLVER, (1953) Ph.D.
Assistant Professor of Education 900 Dacian Avenue
- NORMAN FRANCIS CONANT, (1935) Ph.D.
Professor of Mycology; Associate Professor of Bacteriology Route 1, Old Cornwallis Road

*Absent on sabbatical leave, fall semester, 1954-55.

† Absent on sabbatical leave, 1954-55.

- *ROBERT HOWE CONNERY, (1949) Ph.D.
Professor of Political Science 906 Buchanan Boulevard
- FREDERICK AUGUSTUS GRANT COWPER, (1918) Ph.D.
Professor Emeritus of Romance Languages 1017 Dacian Avenue
- †JOHN SHELTON CURTIS, (1945) Ph.D.
Professor of History Route 2, Box 95, Guess Road
- ROBERT EARL CUSHMAN, (1945) B.D., Ph.D.
Professor of Systematic Theology 130 Pinecrest Road
- BINGHAM DAI, (1943) Ph.D.
Professor of Psychology; Professor of Medical Psychology 2404 Perkins Road
- WILLIAM DAVID DAVIES, (1950) B.D., D.D.
Professor of Biblical Theology 810 Second Street
- GIFFORD DAVIS, (1930) Ph.D.
Professor of Romance Languages 2248 Cranford Road
- JEAN-JACQUES DEMOREST, (1948) Ph.D.
Associate Professor of Romance Languages 2712 Circle Drive
- FRANK TRAVER DE VYVER, (1935) Ph.D.
Professor of Economics 8 Sylvan Road
- DONALD J. DEWEY, (1950) M.A.
Assistant Professor of Economics 611 Watts Street
- FRANCIS GEORGE DRESSSEL, (1929) Ph.D.
Professor of Mathematics 309 Francis Street
- KENNETH LINDSAY DUKE, (1940) Ph.D.
Associate Professor of Anatomy 701 West Club Boulevard
- GEORGE SHARP EADIE, (1930) Ph.D.
Professor of Physiology and Pharmacology 3433 Dover Road, Hope Valley
- HOWARD EASLEY, (1930) Ph.D.
Associate Professor of Education Guess Road
- WILLIAM WHITFIELD ELLIOTT, (1925) Ph.D.
Professor of Mathematics Hillandale Road
- JOHN WENDELL EVERETT, (1932) Ph.D.
Professor of Anatomy 2605 University Drive
- WILLIAM MARTIN FAIRBANK, (1952) Ph.D.
Associate Professor of Physics 2016 Pershing Street
- †ARTHUR BOWLES FERGUSON, (1939) Ph.D.
Associate Professor of History Lebanon Circle, Guess Road
- NORMAN GARMEZY, (1950) Ph.D.
Associate Professor of Psychology 3423 Hope Valley Road
- JOHN JAY GERGEN, (1936) Ph.D.
Professor of Mathematics 2803 Nation Avenue
- ALLAN H. GILBERT, (1920) Ph.D.
Professor of English 503 Compton Place
- GEORGE GLOCKLER, (1952) Ph.D.
Visiting Lecturer in Chemistry 125 Pinecrest Road
- ‡CLARENCE GOHDES, (1930) Ph.D.
Professor of English 2737 Circle Drive

* Absent on sabbatical leave, fall semester, 1954-55.

† Absent on sabbatical leave, 1954-55.

‡ Absent on sabbatical leave, spring semester, 1954-55.

- WALTER GORDY, (1946) Ph.D.
Professor of Physics 2521 Perkins Road
- IRVING EMERY GRAY, (1930) Ph.D.
Professor of Zoology 124 Pinecrest Road
- EUGENE GREULING, (1948) Ph.D.
Associate Professor of Physics 2114 Perkins Road
- PAUL MAGNUS GROSS, (1919) Ph.D.
William Howell Pegram Professor of Chemistry 3816 Dover Road, Hope Valley
- NORMAN GUTTMAN, (1951) Ph.D.
Assistant Professor of Psychology 854 Louise Circle
- FRANK GREGORY HALL, (1926) Ph.D.
Professor of Physiology and Pharmacology 122 Pinecrest Road
- LOUISE HALL, (1931) S.B.Arch., Ph.D.
Associate Professor of Architecture Box 6636, College Station
- JOHN HAMILTON HALLOWELL, (1942) Ph.D.
Professor of Political Science 2709 Augusta Drive
- WILLIAM BASKERVILLE HAMILTON, JR., (1936) Ph.D.
Professor of History 2256 Cranford Road
- PHILIP HANDLER, (1939) Ph.D.
Professor of Biochemistry and Nutrition 2529 Perkins Road
- FRANK ALLAN HANNA, (1948) Ph.D.
Professor of Economics 2239 Cranford Road
- EARL THOMAS HANSON, (1946) Ph.D.
Assistant Professor of Political Science 613 Swift Avenue
- GEORGE THOMAS HARGITT, (1930) Ph.D., Sc.D.
Professor Emeritus of Zoology 811 Watts Street
- ELWOOD SCOTT HARRAR, (1936) Ph.D.
Professor of Wood Technology 2228 Cranford Road
- HORNELL NORRIS HART, (1938) Ph.D.
Professor of Sociology 2535 Perkins Road
- *CHARLES CLEVELAND HATLEY, (1917) Ph.D.
Professor Emeritus of Physics 708 Buchanan Boulevard
- †CHARLES ROY HAUSER, (1929) Ph.D.
Professor of Chemistry 1020 Rosehill Avenue
- DUNCAN CHARTERIS HETHERINGTON, (1930) Ph.D., M.D.
Professor of Anatomy K3B, University Apartments
- DOUGLAS GREENWOOD HILL, (1931) Ph.D.
Professor of Chemistry Box 275, Route 2, St. Mary's Road
- MARCUS EDWIN HOBBS, (1935) Ph.D.
Professor of Chemistry 115 Pinecrest Road
- CALVIN BRYCE HOOVER, (1925) Ph.D., Litt.D.
James B. Duke Professor of Economics 1702 Duke University Road
- ‡EDWARD CHARLES HORN, (1946) Ph.D.
Assistant Professor of Zoology 2509 Cascadilla Street
- *JAY BROADUS HUBBELL, (1927) Ph.D., Litt.D.
Professor Emeritus of English 121 Pinecrest Road
- WAYLAND E. HULL, (1953), Ph.D.
Assistant Professor of Physiology Circle Drive

* Retired, August 31, 1954.

† Absent on sabbatical leave, spring semester, 1954-55.

‡ Absent on sabbatical leave, 1954-55.

- HAROLD J. HUMM, (1954) Ph.D.
Assistant Professor of Botany 912 Monmouth Avenue
- DON DOUGAN HUMPHREY, (1945) Ph.D.
Professor of Economics 2802 Legion Avenue
- MRS. WANDA SANBORN HUNTER, (1947) Ph.D.
Associate Professor of Zoology 880 Louise Circle
- WILLIAM HENRY IRVING, (1936) B.A. (Oxon.), Ph.D.
Professor of English 2707 Legion Avenue
- HOWARD EIKENBERRY JENSEN, (1931) B.D., Ph.D.
Professor of Sociology 143 Pinecrest Road
- TERRY W. JOHNSON, JR., (1954) Ph.D.
Assistant Professor of Botany 825 Louise Circle
- EDWARD JONES, (1953) Ph.D.
Assistant Professor of Psychology 869 Louise Circle
- BRADY RIMBEY JORDAN, (1927) Ph.D.
Professor of Romance Languages 117 Pinecrest Road
- *HAYWARD KENISTON, (1952) Ph.D.
Visiting Lecturer in Romance Languages 214, Faculty Apartments
- GREGORY ADAMS KIMBLE, (1952) Ph.D.
Associate Professor of Psychology 1808 Hillcrest Drive
- SIGMUND KOCH, (1942, 1948) Ph.D.
Professor of Psychology 2921 Horton Road
- SEYMOUR KORKES, (1953) M.D.
Associate Professor of Biochemistry 3200 Guess Road
- CLARENCE FERDINAND KORSTIAN, (1930) Ph.D.
Professor of Silviculture 4 Sylvan Road
- †PAUL JACKSON KRAMER, (1931) Ph.D.
James B. Duke Professor of Botany 2251 Cranford Road
- WILLIAM R. KRIGBAUM, (1952) Ph.D.
Assistant Professor of Chemistry 2015 Woodland Drive
- CHARLES ALBERT KRUMMEL, (1922) Ph.D.
Professor Emeritus of German 2118 Englewood Avenue
- GEORGE FREDERICK KUDER, (1948) Ph.D.
Professor of Psychology 2516 Perkins Road
- WESTON LABARRE, (1946) Ph.D.
Associate Professor of Anthropology 1311 Alabama Avenue
- CHARLES EARL LANDON, (1926) Ph.D.
Professor of Economics 1514 Edgevale Road
- JOHN TATE LANNING, (1927) Ph.D.
Professor of History 3007 Surrey Road, Hope Valley
- WILLIAM THOMAS LAPRADE, (1909) Ph.D.
Professor Emeritus of History 1108 Monmouth Avenue
- HAROLD WALTER LEWIS, (1949) Ph.D.
Assistant Professor of Physics 2307 Sprunt Street
- ‡FREDERICK LONDON, (1938) Ph.D., D es Sc.
James B. Duke Professor of Chemical Physics 1508 Oakland Avenue
- OSKAR HELGE LUNDHOLM, (1930) Ph.D.
Professor of Psychology 803 Second Street

* Resigned, August 31, 1954.

† Absent on sabbatical leave, spring semester, 1954-55.

‡ Died, March 30, 1954.

- LIONEL WILFRED MCKENZIE, JR., (1948) M.A., B.Litt. (Oxon.)
Associate Professor of Economics 1811 Forest Road
- JONATHON COLLINS MCLENDON, (1952) Ph.D.
Associate Professor of Education 944 Lambeth Circle
- ALAN KREBS MANCHESTER, (1929) Ph.D.
Professor of History 2016 Myrtle Drive
- JOSEPH ELDRIDGE MARKEE, (1943) Ph.D.
James B. Duke Professor of Anatomy 1015 Demerius Street
- SIDNEY DAVID MARKMAN, (1947) Ph.D.
Associate Professor of Art History and Archaeology 919 Urban Avenue
- GEORGE W. NACE, (1951) Ph.D.
Assistant Professor of Zoology 2402 Chapel Hill Road
- AUBREY WILLARD NAYLOR, (1952) Ph.D.
Associate Professor of Botany 881 Louise Circle
- GLENN ROBERT NEGLEY, (1946) Ph.D.
Professor of Philosophy 1700 Shawnee Street
- ERNEST WILLIAM NELSON, (1926) Ph.D.
Associate Professor of History 939 Lambeth Circle
- HENRY WINSTON NEWSON, (1948) Ph.D.
Professor of Physics 1111 North Gregson Street
- WALTER MCKINLEY NIELSEN, (1925) Ph.D.
James B. Duke Professor of Physics 139 Pinecrest Road
- LOTHAR WOLFGANG NORDHEIM, (1937) Ph.D., Sc.D.
Professor of Physics 2255 Cranford Road
- HOWARD THOMAS ODUM, (1954) Ph.D.
Assistant Professor of Zoology No. 1 Carolee Apartments, Cook Street
- HENRY JOHN OOSTING, (1932) Ph.D.
Professor of Botany 2642 University Drive
- HAROLD TALBOT PARKER, (1939) Ph.D.
Associate Professor of History 12, Glenn Apartments, Dacian Avenue
- RANSOM RATHBONE PATRICK, (1954) M.F.A.
Professor of Aesthetics and Art 403 Jackson Street
- *ROBERT LEET PATTERSON, (1945) B.D., Ph.D.
Professor of Philosophy Washington Duke Hotel
- WILLIAM BERNARD PEACH, (1951) Ph.D.
Assistant Professor of Philosophy 920 Dacian Avenue
- ARTHUR SPERRY PEARSE, (1926) Ph.D., LL.D.
Professor Emeritus of Zoology 803 Second Street
- TALMADGE LEE PEELE, (1939) M.D.
Associate Professor of Anatomy; Assistant Professor of Medicine E2B University Apartments
- KENNETH E. PENROD, (1950) Ph.D.
Associate Professor of Physiology and Pharmacology 1815 Hillcrest Drive
- HAROLD SANFORD PERRY, (1932) Ph.D.
Associate Professor of Botany 2302 Cranford Road
- RAY C. PETRY, (1937) Ph.D., LL.D.
Professor of Church History 128 Pinecrest Road
- OLAN LEE PETTY, (1952) Ph.D.
Assistant Professor of Education 1509 Woodland Drive

* Absent on leave, February 1, 1955-January 31, 1956.

- JANE PHILPOTT, (1951) Ph.D.
Assistant Professor of Botany 804 Fourth Street
- HILDA PERSONS POPE, (1948) Ph.D.
Assistant Professor of Bacteriology 802 Louise Circle
- BENJAMIN EDWARD POWELL, (1946) Ph.D.
Librarian 3609 Hathaway Road, Hope Valley
- RICHARD LIONEL PREDMORE, (1950) D.M.L.
Professor of Romance Languages 2413 Perkins Road
- ARTHUR MARCUS PROCTOR, (1923) Ph.D.
Professor Emeritus of Education 1500 Edgevale Road
- CHARLES WILLIAM RALSTON, (1954) Ph.D.
Assistant Professor of Forest Soils 1010 Arnette Avenue
- ROBERT STANLEY RANKIN, (1927) Ph.D.
Professor of Political Science 1107 Knox Street
- WILLIAM WALTER RANKIN, JR., (1926) M.A.
Professor Emeritus of Mathematics 1011 Gloria Avenue
- BENJAMIN ULYSSES RATCHFORD, (1928) Ph.D.
Professor of Economics 133 Pinecrest Road
- EMMETTE SHELBURN REDFORD, (1954) Ph.D.
Visiting Professor of Political Science 809 Knox Street
- THOMAS D. REYNOLDS, (1953) Ph.D.
Assistant Professor of Education M4, 815 Demerius Street
- HENRY STOUTTE ROBERTS, JR., (1948) Ph.D.
Associate Professor of Zoology Box 221, Route 5, Duke Homestead Road
- JOHN HENDERSON ROBERTS, (1931) Ph.D.
Professor of Mathematics 2813 Legion Avenue
- ELIOT H. RODNICK, (1949) Ph.D.
Professor of Psychology; Director of Clinical Training in Psychology 2806 Legion Avenue
- ROBERT SAMUEL ROGERS, (1937) Ph.D., F.A.A.R.
Professor of Latin 148 Pinecrest Road
- THEODORE ROPP, (1938) Ph.D.
Associate Professor of History 302 Woodridge Drive
- JESSE LEE ROSE, (1936) Ph.D.
Associate Professor of Latin and Greek 915 Broad Street
- DONALD FRANCIS ROY, (1950) Ph.D.
Assistant Professor of Sociology 904 Shepherd Street
- MABEL F. RUDISILL, (1948) Ph.D.
Associate Professor of Education 213 West Markham Avenue
- RALPH WAYNE RUNDLES, (1945) Ph.D., M.D.
Associate Professor of Medicine 132 Pinecrest Road
- JOHN HENRY SAYLOR, (1928) Ph.D.
Professor of Chemistry 2500 Perkins Road
- THOMAS ANTON SCHAFER, (1950) B.D., Ph.D.
Assistant Professor of Historical Theology 1523 Woodburn Road
- CLARENCE HENRY SCHEITLER, (1946) Ph.D.
Associate Professor of Sociology 119 Pinecrest Road
- KNUT SCHMIDT-NIELSEN, (1952) Mag.Sc., Ph.D.
Professor of Zoology 2402 Chapel Hill Road

- FRANCIS XAVIER SCHUMACHER, (1937) B.S.
Professor of Forestry 6 Sylvan Road
- GEORGE WILLIAM SCHWERT, JR., (1946) Ph.D.
Associate Professor of Biochemistry 611 Hammond Street
- LAMBERT ARMOUR SHEARS, (1927) Ph.D.
Professor of German 917 Green Street
- EDWARD CHRISTIAN SIMMONS, (1947) Ph.D.
Professor of Economics 2510 Perkins Road
- DAVID TILLERSON SMITH, (1930) M.D., Litt.D.
James B. Duke Professor of Bacteriology;
Associate Professor of Medicine 3437 Dover Road, Hope Valley
- HILRIE SHELTON SMITH, (1931) Ph.D., D.D., Litt.D.
James B. Duke Professor of American
Religious Thought 2721 Dogwood Road
- ROBERT SIDNEY SMITH, (1932) Ph.D.
Professor of Economics 2236 Cranford Road
- HERSEY EVERETT SPENCE, (1918) B.D., D.D., Litt.D.
Professor Emeritus of Religious Education 3629 Hope Valley Road
- *JOSEPH JOHN SPENGLER, (1934) Ph.D.
James B. Duke Professor of Economics 2240 Cranford Road
- HERTHA D. E. SPONER, (1935) Ph.D.
Professor of Physics 3309 Avon Road, Hope Valley
- HARRY R. STEVENS, (1947) Ph.D.
Assistant Professor of History University Apartments
- WILLIAM FRANKLIN STINESPRING, (1936) Ph.D.
Professor of Old Testament 1107 Watts Street
- CARL HENRY STOLTENBERG, (1951) Ph.D.
Assistant Professor of Forest Economics 942 Lambeth Circle
- HOWARD AUSTIN STROBEL, (1948) Ph.D.
Assistant Professor of Chemistry 1013 Dacian Avenue
- WIPPERT ARNOT STUMPF, (1948) Ph.D.
Associate Professor of Education 127 Pinecrest Road
- ELIZABETH READ SUNDERLAND, (1939) Ph.D.
Associate Professor of Art 26 Alastair Court
- †CHARLES SACKETT SYDNOR, (1936) M.A. (Oxon.), Ph.D., Litt.D., LL.D.
James B. Duke Professor of History 116 Pinecrest Road
- HAYWOOD MAURICE TAYLOR, (1930) Ph.D.
Professor of Toxicology; Associate Professor
of Biochemistry 2620 University Drive
- JOSEPH MILLER THOMAS, (1930) Ph.D.
Professor of Mathematics 2215 Cranford Road
- EDGAR TRISTRAM THOMPSON, (1935) Ph.D.
Professor of Sociology 138 Pinecrest Road
- JAMES NARDIN TRUESDALE, (1930) Ph.D.
Associate Professor of Greek 2804 Erwin Road
- ARLIN J. TURNER, (1953) Ph.D.
Professor of English 912 Green Street
- CLEMENT VOLLMER, (1926) Ph.D.
Professor of German 2114 Myrtle Drive

* Absent on sabbatical leave, fall semester, 1954-55.

† Died March 2, 1954.

*HERBERT VON BECKERATH, (1935) Ph.D. <i>Professor of Economics and Political Science</i>	Lake Road, Route 1, Chapel Hill
WARREN CHASE VOSBURGH, (1928) Ph.D. <i>Professor of Chemistry</i>	2319 Englewood Avenue
LORING BAKER WALTON, (1929) Lic. es L., Ph.D. <i>Professor of Romance Languages</i>	2235 Cranford Road
CHARLES EUGENE WARD, (1927) Ph.D. <i>Professor of English; Secretary of Graduate Faculty</i>	2429 Perkins Road
*RICHARD LYNNESS WATSON, JR., (1939) Ph.D. <i>Associate Professor of History</i>	109 Pinecrest Road
*VERNON ELGIN WAY, (1930) A.M., M.A. <i>Associate Professor of Greek</i>	918 Urban Avenue
HENRY WEITZ, (1950) Ed.D. <i>Associate Professor of Education</i>	517½ South Duke Street
PAUL WELSH, (1948) Ph.D. <i>Assistant Professor of Philosophy</i>	102, Faculty Apartments
ALBAN GREGORY WIDGERY, (1930) M.A. <i>Professor Emeritus of Philosophy</i>	152 Pinecrest Road
KARL MILTON WILBUR, (1946) Ph.D. <i>Professor of Zoology</i>	2415 Club Boulevard
PELHAM WILDER, JR., (1949) Ph.D. <i>Assistant Professor of Chemistry</i>	2525 Glendale Avenue
ROBERT MARSHALL WILLIAMSON, (1951) Ph.D. <i>Assistant Professor of Physics</i>	20 Meadowbrook Drive
ROBERT RENBERT WILSON, (1925) Ph.D., LL.D. <i>Professor of Political Science</i>	717 Anderson Street
†FREDERICK ADOLPHUS WOLF, (1927) Ph.D. <i>James B. Duke Professor Emeritus of Botany</i>	924 Urban Avenue
JAMES L. WOODRESS, JR., (1954) <i>Visiting Lecturer in English</i>	1308 West Markham Avenue
ROBERT HILLIARD WOODY, (1929) Ph.D. <i>Professor of History</i>	2648 University Drive
KARL EDWARD ZENER, (1928) Ph.D. <i>Professor of Psychology</i>	Route 2, Sparger Road

ANGIER DUKE MEMORIAL FELLOW

<i>Name</i>	<i>Department</i>	<i>Home Address</i>
ALAN KEITH-LUCAS B.A., M.A., Cambridge University; M.Sc., Western Reserve University	Political Science	Chapel Hill, N. C.

GURNEY HARRISS KEARNS FELLOWS IN RELIGION

STUART C. HENRY A.B., Davidson College; B.D., Louisville Presbyterian Seminary	Religion	Concord, N. C.
MAX E. POLLEY A.B., Albion College; B.D., Duke Divinity School	Religion	Niles, Mich.

* Absent on sabbatical leave, spring semester, 1954-55.

† Retired, August 31, 1954.

<i>Name</i>	<i>Department</i>	<i>Home Address</i>
KENNETH M. TAYLOR A.B., Florida Southern; B.D., Duke Divinity School	Religion	Miami, Fla.
DAN O. VIA B.S., Davidson College; B.D., Southern Baptist Theological Seminary	Religion	Charlottesville, Va.

WOODROW WILSON FELLOWS

FRANKLYN G. BONN, JR. B.A., University of Minnesota	Political Science	St. Paul, Minn.
HENRY R. WEST B.A., Emory University	Philosophy	Athens, Ga.

UNIVERSITY FELLOWS

NORMAN H. BARLOW B.A., Kings College (England)	Romance Languages	Atlanta, Ga.
WILLIAM T. BLACKSTONE B.A., Elon College	Philosophy	Jacksonville, Fla.
WILLIAM F. BRIDGERS B.A., University of the South	Biochemistry	Lakewood, Ohio
CLYDE H. DORNBUSCH B.A., DePauw University	English	Cincinnati, Ohio
CHARLES E. EDGE A.B., M.A., University of North Carolina	English	Rocky Mount, N. C.
WALTER I. GOLDBURG B.A., Cornell University	Physics	Wilmington, N. C.
JAMES E. JACKMAN A.B., Nebraska Wesleyan University; M.A., University of Nebraska	Philosophy	Lincoln, Neb.
HOUSTON G. JONES B.S., Appalachian State Teachers College; M.A., George Peabody College	History	Pelham, N. C.
HAIG A. KHATCHADOURIAN B.A., M.A., American University of Beirut	Philosophy	Beirut, Lebanon
RAMON M. LEMOS B.A., University of Alabama; A.M., Duke University	Philosophy	Mobile, Ala.
EUGENE J. LYNCH B.A., Cornell University	Physics	Lafayette, N. Y.
TAKASHI OCHI B. of Econ., Nagoya University	Economics	Nagoya, Japan
JAMES V. OGLE B.S., University of Maryland	Psychology	Wiesbaden, Germany
PATRICIA R. ROBERTS B.Sc., M.Sc., Canterbury University College	Botany	Hamilton, New Zealand
WILLIAM O. SCOTT B.A., University of Chicago; B.A., University of Michigan	English	Trenton, Mich.
HAROLD S. THAMES B.A., M.A., University of Mississippi	Political Science	Jackson, Miss.
SHIRLEY S. ULMER A.B., Furman University; A.M., Duke University	Political Science	Greenville, S. C.
ROBERT M. WILL B.A., University of Western Ontario	Economics	Harley, Ontario

GRADUATE ASSISTANTS

<i>Name</i>	<i>Department</i>	<i>Home Address</i>
RICHARD J. BARKER B.A., University of Rochester; M.A., Duke University	History	Rochester, N. Y.
SAMUEL H. BARNES B.A., M.A., Tulane University	Political Science	Pascagoula, Miss.
PHILIP D. BATTLE B.A., Tusculum College	History	Pasadena, Texas
WILLIAM Q. BEARD, JR. B.S., University of North Carolina	Chemistry	St. George, S. C.
ELAINE S. BERSON B.A., University of Illinois; M. Soc. Wk., University of Oklahoma	Sociology	Newark, N. J.
PHILIP R. BEVINGTON A.B., Harvard	Physics	Durham, N. C.
C. ALAN BONEAU A.B., A.M., University of Cincinnati	Psychology	Cincinnati, Ohio
CLARISSA L. BRADY A.B., West Virginia University	Romance Languages	Summersville, W. Va.
BARBARA W. BRANDON B.A., Wellesley College; M.A., University of North Carolina	History	Hickory, N. C.
D. YORK BRANNOCK A.B., Elon College	Chemistry	Burlington, N. C.
JOHN W. BURCH B.A., Southwestern at Memphis	Romance Languages	Memphis, Tenn.
C. EUGENE CAIN B.S., University of North Carolina	Chemistry	Elizabethtown, N. C.
MILDRED A. CAMPBELL B.S., George Washington University; M.A., Smith College	Zoology	Hyattsville, Md.
WILLIAM G. CARTER, JR. B.S., Davidson College	Zoology	Cornelius, N. C.
WILLIAM J. CHAMBERS B.S., University of Illinois	Chemistry	Sycamore, Ill.
TIEN CHI CHEN B.S., Brown University; A.M., Duke University	Physics	Hongkong, China
JOHN R. CLARKE B.A., University of Richmond; M.A., Columbia University	Education	Richmond, Va.
GUS A. CONSTANTINE A.B., Atlantic Christian College; M.A., East Carolina College	Education	Franklinton, N. C.
HARRY H. CORSON, III B.S., Vanderbilt University; A.M., Duke University	Mathematics	Nashville, Tenn.
CHRISTOPHER J. CROWLEY B.A., Wagner College; A.M., Duke University	History	Staten Island, N. Y.
M. ELIZABETH DELOACH B.A., Mary Baldwin College	English	Memphis, Tenn.
MARGUERITE L. DENNY B.A., Millsaps College	Romance Languages	Jackson, Miss.
FREDRIC E. DETORO B.Sc., Brown University	Chemistry	Johnston, R. I.

<i>Name</i>	<i>Department</i>	<i>Home Address</i>
E. KEITH DIX B.A., Millsaps College	Economics	Spokane, Wash.
SANFORD ELKIN B.S., City College of New York	Physics	Bronx, N. Y.
WILLIAM D. FISHER A.B., Duke University	Zoology	Roxboro, N. C.
LAUREL E. GLASS B.A., University of California	Zoology	Fresno, Calif.
WILLIAM D. GOODRUM A.B., Davidson; B.D., Duke Divinity School	German	Cornelius, N. C.
CECIL R. HAMPSON B.S., University of California	Microbiology	Oildale, Calif.
DAVID A. HARRIS B.A., Manchester University	Political Science	Carshalton, England
HENRY W. HARTSFIELD, JR. B.S., Alabama Polytechnic Institute	Physics	Birmingham, Ala.
IRENE HASENBERG B.A., Queens College (N. Y.)	Economics	Jamaica, N. Y.
TETSUICHI HASHIMOTO Degree of Hogakushi, University of Tokyo	Political Science	Kobe, Japan
WILLIAM H. HATCHER A.B., M.A., University of Arkansas	Political Science	Blacksburg, Va.
CAROLYN HERBERT A.B., Ohio University; A.M., Duke University	English	Athens, Ohio
KENNETH L. HOLMES A.B., Brown University	English	Norfolk, Va.
WERNER K. HONIG B.A., Swarthmore College	Psychology	Flushing, N. Y.
WINFRED J. HOUSE A.B., A.M., Duke University	Education	Roxboro, N. C.
VICTOR H. HUTCHISON B.S., North Georgia College	Zoology	Columbus, Ga.
ALICE J. IREY A.B., Woman's College of the University of North Carolina	Economics	Weldon, N. C.
ROBERT B. JACKSON, JR. B.S., Davidson College	Mathematics	Drakes Branch, Va.
CHARLES W. JAMES B.S., M.S., University of Florida	Botany	Dade City, Fla.
CHARLES B. JOHNSON A.B., A.M., Duke University	Education	Durham, N. C.
GLENN L. JOHNSON A.B., Princeton University	English	Clemmons, N. C.
J. ROBERT JOHNSON, JR. B.S., Wake Forest College	Mathematics	Richmond, Va.
GORDON B. JOINER A.B., Howard College	Political Science	Birmingham, Ala.
ROY E. JUMPER B.A., A.M., University of South Carolina	Political Science	Springfield, S. C.

DUKE UNIVERSITY

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<i>Name</i>	<i>Department</i>	<i>Home Address</i>
PHILIP KAMINSTEIN A.B., M.A., New York University	Sociology	Kiamesha Lake, N. Y.
JOHN N. KIDDER B.S., California Institute of Technology	Physics	Concord, Mass.
JAMES C. KIMBERLY B.A., Emory University	Sociology	Emory University, Ga.
CLIFFORD B. KNIGHT, JR. B.A., M.A., University of Connecticut	Zoology	Brooklyn, N. Y.
JAMES L. LARIMER B.S., East Tennessee State College; M.S., University of Virginia	Zoology	Jonesboro, Tenn.
JOSEPH P. LEAHY B.S., University of Rochester; A.M., Duke University	History	Flushing, N. Y.
T. GLENN LEDFORD B.S., Virginia Polytechnic Institute	Chemistry	Hopewell, Va.
LOWELL W. LEHMAN, JR. B.A., University of Chattanooga	History	Chattanooga, Tenn.
JACQUE K. LINDSAY B.S., Hobart College	Chemistry	Rochester, N. Y.
ROBERT M. LINN B.S. in Ed.; M.A., Kent State University	Botany	Cleveland Heights, Ohio
SETA M. LUCK B.A., Bryn Mawr	Chemistry	Durham, N. C.
CLYDE T. McCANTS B.A., Erskine College	English	Anderson, S. C.
ELIZABETH McMAHAN A.B., A.M., Duke University	Zoology	Mocksville, N. C.
LUCIE I. MANN B.A., Brown University	Psychology	Providence, R. I.
FRANK J. S. MATURO, JR. B.S., University of Kentucky; A.M., Duke University	Zoology	South Birmingham, Ala.
ABIE F. MAXWELL B.S., Wake Forest College	Chemistry	Erwin, N. C.
JOHN W. MERCK A.B., M.A., University of Georgia	Sociology	Athens, Ga.
W. ROBERT MILLER B.A., Kenyon College	Political Science	Grove City, Ohio
KENNETH B. MOSER B.S., Tusculum College	Chemistry	Malverne, N. Y.
JOHN A. MURRAY B.S., Fordham; M.A., University of Rochester	History	Rochester, N. Y.
BURL L. NOGGLE A.B., A.M., Duke University	History	Durham, N. C.
DANIEL H. NORRIS B.S., Michigan State College	Botany	Sylvania, Ohio
EDWARD L. O'CONNELL, JR. B.S., Fairfield University	Chemistry	Derby, Conn.
JOHN W., OLIVER, JR. A.B., Geneva College; M.A., University of Pittsburgh	History	Pittsburgh, Pa.

DUKE UNIVERSITY

<i>Name</i>	<i>Department</i>	<i>Home Address</i>
LAWRENCE E. PADGETT B.A., University of Houston	English	Tazewell, Va.
ELIZABETH A. PETERSON B.S., Duke University	Chemistry	Penns Grove, N. J.
GEORGE W. PIAVIS A.B., M.Ed., Western Maryland College	Zoology	Westminster, Md.
ALLEN L. REBUCK B.S., Franklin & Marshall College; M.S., Pennsylvania State College	Botany	Dornsife, Pa.
CLYDE H. ROBERTSON, JR. B.S., Wofford College; A.M., Duke University	Zoology	Heath Springs, S. C.
HOWARD F. L. ROCK B.S., University of Massachusetts	Botany	Springfield, Mass.
WILLIAM W. ROLLAND A.B., King College	Physics	Canton, N. C.
LESLIE H. SPERLING B.S. University of Florida	Chemistry	Miami, Fla.
BETTY J. STANCIL A.B., Woman's College of the University of North Carolina	Psychology	Selma, N. C.
EDGAR F. STILLWELL B.S., Wagner College; A.M., Duke University	Zoology	Durham, N. C.
GILBERT L. SWARD B.A., Duke University	Mathematics	Chevy Chase, Md.
ELIZABETH TAYLOR B.A., Marietta College; M.S., University of Cincinnati	Zoology	Cincinnati, Ohio
JOHN R. THOMPSON A.B., Albion College	Zoology	Albion, Mich.
CHESTER D. TRIVETTE, JR. B.S., Virginia Polytechnic Institute	Chemistry	Kingsport, Tenn.
DONALD N. VAN EENAM B.S., University of Michigan; M.A., Dartmouth College	Chemistry	Washington, D. C.
SIDNEY T. WEBSTER B.S., Roanoke College	Chemistry	Roanoke, Va.
HARRY W. WELLS A.B., Johns Hopkins University; A.M., Duke University	Zoology	Baltimore, Md.
LAWRENCE W. WESTON B.S., Florida State University	Physics	Marianna, Fla.
EVELYN R. WILBANKS A.B., Wellesley College	English	Atlanta, Ga.
GEORGE M. WOODWELL A.B., Dartmouth College	Botany	York, Me.
GEORGE T. YOUNGBLOOD B.S., Clemson College	Chemistry	Savannah, Ga.
LOUISE D. ZILLIG B.S., New Jersey College for Women	Zoology	Bound Brook, N. J.

GRADUATE SCHOLARS

GEORGE M. ADDY B.A., M.A., Brigham Young University	History	Salt Lake City, Utah
--------------------------------------------------------	---------	----------------------

DUKE UNIVERSITY

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<i>Name</i>	<i>Department</i>	<i>Home Address</i>
ROBERT H. ASHBY B.A., Kenyon College	History	Cincinnati, Ohio
JUNE N. BARKER B.S., University of Rochester; A.M., Duke University	Physiology	Rochester, N. Y.
WALTER W. BENJAMIN B.A., Hamline University; B.D., Garrett Biblical Institute	Religion	Pipestone, Minn.
ROY S. CLEMMONS A.B., Guilford College	Philosophy	Greensboro, N. C.
ROBERT E. CLUTE B.A., University of Alabama; M.A., George Washington University	Political Science	Wetumpka, Ala.
JOYCE G. DENNING A.B., Tufts College	Political Science	Wakefield, Mass.
ROBERT H. DUFORT B.A., Duke University	Psychology	Richmond, Va.
AMERIGO FARINA B.A., Yale University	Psychology	New Haven, Conn.
JESSE C. FISHER B.S., Davidson College; A.M. Duke University	Economics	Concord, N. C.
IRWIN FRIDOVICH B.S., College of the City of New York	Biochemistry	Durham, N. C.
KOKICHI FUKUSHIMA Bach. of Medicine, Doct. of Medicine, University of Tokyo	Microbiology	Gumma-ken, Japan
ROBERT G. GARDNER A.B., Mercer University; B.D., Duke Divinity School	Religion	McDonough, Ga.
WILLARD B. GATEWOOD, JR. A.B., A.M., Duke University	History	Pelham, N. C.
IRVING J. GOFFMAN B.A., McGill University	Economics	Montreal, Quebec
GEORGE E. GOODE B.A., Southwestern at Memphis	Political Science	Memphis, Tenn.
FRED M. GOTTHEIL B.A., McGill University	Economics	Montreal, Quebec
COBURN GUM A.B., Duke University	English	St. Petersburg, Fla.
RICARDO M. GUTIERREZ Accountant, Nuevo Colegio de Comercio y Hacienda; Doctor in Econ., University Nacional El Salvador	Economics	San Salvador, El Salvador
FAWZI HABIB Equivalent of A.B., Fouad First University	Economics	Minia, Egypt
HARLEY M. HANSON B.A., University of Akron	Psychology	Akron, Ohio
WILLIAM G. HARRINGTON A.B., Marietta College	History	Marietta, Ohio
DONALD M. ISAAC B.A., City College of New York	Psychology	Bronx, N. Y.
PATRICIA E. JONES B.A., Willamette University	Romance Languages	Corvallis, Ore.
MARGUERITE-MARIE JOURDAN Diploma, Ecole de Haut Enseignement Commercial	Economics	Clermont-Ferrand, France

<i>Name</i>	<i>Department</i>	<i>Home Address</i>
LUCIA S. KEGLER A.B., Mississippi State College for Women	Romance Languages	Bucksville, Pa.
WILLIAM W. KELLY B.S., Virginia Military Institute	English	Big Stone Gap, Va.
THOMAS A. LANGFORD A.B., Davidson College; B.D., Duke Divinity School	Religion	Charlotte, N. C.
ALLISON L. LEWIS B.A., M.A., University of Florida	Philosophy	Daytona Beach, Fla.
JAMES L. McALLISTER, JR. A.B., University of North Carolina; B.D., Yale Divinity School	Religion	Roper, N. C.
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J. IAN McDONALD B.A., M.A., University of Western Ontario	Economics	Stratford, Ontario
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STEPHEN C. PAINE B.A., Amherst College	English	New York, N. Y.
JACK PREISS B.S., City College of New York	Biochemistry	Brooklyn, N. Y.
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CURTIS L. WELBORNE A.B., Elon College	Philosophy	Elon College, N. C.

<i>Name</i>	<i>Department</i>	<i>Home Address</i>
KAYE W. WILLIAMS A.B., Guilford College	Political Science	Glenn Falls, N. Y.
FRED W. ZECHMAN, JR. B.S., Otterbein College; M.S., University of Maryland	Physiology	Miamisburg, Ohio
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*Name**Home Address*

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A.B., Reed College

Ocracoke Island, N. C.

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Cleveland, Ohio

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Chapel Hill, N. C.

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B.Sc., M.Sc., University of New Zealand; Ph.D. Duke University

Wellington, New Zealand

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B.S., M.S., Ph.D., Carnegie Institute of Technology

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Clackamas, Ore.

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HARRY W. HICKEY
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Charleston, S. C.

AHMAD SAM
B.S., Tehran University

Tehran, Iran

JOHN W. STEWART
B.S., Yale University

Washington, D. C.

JUDITH E. SUND
B.S., Roanoke College

Brooklyn, N. Y.

RESEARCH ASSISTANT, ALLEGANY BALLISTICS LABORATORY

<i>Name</i>	<i>Home Address</i>
DEWEY K. CARPENTER B.S., Syracuse University; A.M., Duke University	Scranton, Pa.

RESEARCH ASSISTANT, ATOMIC ENERGY COMMISSION

ARTHUR S. GILLESPIE B.S., Wake Forest College	Reidsville, N. C.
--------------------------------------------------	-------------------

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JAMES G. MURRAY B.S., University of Michigan; A.M., Dartmouth College	Flint, Mich.
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SIDNEY T. WEBSTER B.S., Roanoke College	Roanoke, Va.

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----------------------------------------------------------	-----------------

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DEPARTMENT OF HISTORY

RESEARCH ASSISTANTS

FREDERIC B. M. HOLLYDAY A.B., Washington and Lee University; A.M., Duke University	St. Michaels, Md.
---------------------------------------------------------------------------------------	-------------------

DUKE UNIVERSITY

<i>Name</i>	<i>Home Address</i>
ALLEN S. JOHNSON A.B., Wake Forest College; A.M., Duke University	Shiloh, N. C.
WILLIAM R. ROCK A.B., Gettysburg College; A.M., Duke University	Mercersburg, Pa.

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MARGARET SCHWERT A.B., Carleton; Ph.D., University of Minnesota	Durham, N. C.

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GEORGE D. DUDA B.S., The City College of New York	New York, N. Y.
ALEXANDER EICHHOLZ B.S., Blackburn College	Munich, Germany
JACK D. KLINGMAN B.S., Syracuse University; M.S., Medical College of Virginia	Johnson City, N. Y.
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ALFRED D. WINER B.S., Northeastern University; M.S., Purdue University	Lynn, Mass.

DEPARTMENT OF MICROBIOLOGY

RESEARCH ASSOCIATE

ISABEL C. SHEKARCHI A.B., University of Minnesota; A.M., Ph.D., Duke University	Durham, N. C.
------------------------------------------------------------------------------------	---------------

DEPARTMENT OF PHYSIOLOGY

RESEARCH ASSOCIATE

ATHOS OTTOLENGHI M.D., University of Pavia	Durham, N. C.
-----------------------------------------------	---------------

DEPARTMENT OF PHYSICS

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M. J. BUCKINGHAM B.S. (Hon.), M.S., Sidney University; Ph.D., Liverpool University	Pymble, N.S.W., Australia
CHARLES A. BURRUS, JR. B.S., Davidson College; M.S., Emory University	Shelby, N. C.
HANS GEORG DEHMELT Ph.D., Goettingen University	Goettingen, Germany

<i>Name</i>	<i>Home Address</i>
WILLY HAEBERLI Ph.D., University of Basel	Zurich, Switzerland
ERICH M. HARTH A.B., M.S., Ph.D., Syracuse University	Vienna, Austria
ALBERT JACHE B.S., University of New Hampshire; Ph.D., University of Washington	Manchester, N. H.
HEDWIG KOHN Ph.D., Breslau University	Breslau, Germany
PAUL H. E. MEIJER Ph.D., University of Leiden	Leiden, Holland
MASATAKA MIZUSHIMA Ph.D., University of Japan	Tokyo, Japan
HUGH ROBINSON A.B., Emory University; Ph.D., Duke University	Atlanta, Ga.
RESEARCH ASSISTANTS	
EUGENE M. BERNSTEIN B.S., A.M., Duke University	Baltimore, Md.
BROJO N. BHATTACHARYA B.S., M.S., Banaras Hindu University	Banaras, India
LAWRENCE A. BLACKWELL, JR. A.B., Rice Institute	Houston, Tex.
GILBERT S. BLEVINS B.S., Virginia Polytechnic Institute	Marion, Va.
MAURICE E. BLEVINS B.S., Duke University	Charleston, S. C.
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BERNARD CHERN B.S., The City College of New York	Brooklyn, N. Y.
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ALEXANDER J. DESSLER B.S., California Institute of Technology	Willows, Calif.
STEPHEN J. DITTO, JR. B.S., M.S., Mississippi State College	Memphis, Tenn.
SANFORD ELKIN B.S., The City College of New York	Bronx, N. Y.
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CLARENCE F. LUCK, JR. A.B., University of Buffalo	Buffalo, N. Y.
WILLIAM D. MCCORMICK B.S., California Institute of Technology	Tacoma, Wash.

<i>Name</i>	<i>Home Address</i>
PERRY W. MORTON, JR. B.S., Chem. Eng., Rice Institute; M.S., Mississippi State College	Morgan City, Miss.
PAUL M. MOSER A.B., La Salle College; M.S., University of Delaware	Cornwells Heights, Pa.
PAUL F. NICHOLS B.S., College of William and Mary	Norwood, Mass.
JOHN W. OLNES A.B., St. Olaf College	Walker, Minn.
HOWARD W. SHIELDS B.S., University of North Carolina; M.S., Pennsylvania State College	Marble, N. C.
GRIMES G. SLAUGHTER B.S., A.M., Duke University	Durham, N. C.
RAY G. SMITH B.S., Furman University	Greenville, S. C.
A. OGDEN TAYLOR, JR. B.S., Alabama Polytechnic Institute	Auburn, Ala.
A. VAN ROGGEN Equivalent of Ph.D., University of Leiden	Leiden, Holland
JACK VORONA B.S., Massachusetts Institute of Technology	Brooklyn, N. Y.
GEOFFREY K. WALTERS A.B., Rice Institute	Houston, Tex.

RESEARCH FELLOWS

MARION M. DUNCAN, JR. B.S., M.S., Alabama Polytechnic Institute	Columbus, Ga.
ALLEN K. GARRISON B.S., Davidson College	Lake Wales, Fla.
RICHARD C. HECKMAN B.S., Antioch College; A.M., Duke University	Langhorne, Pa.

DEPARTMENT OF PSYCHOLOGY

RESEARCH FELLOW

MERCEDES GAFFRON Ph.D., University of Berlin; M.D., University of Munich	Durham, N. C.
-----------------------------------------------------------------------------	---------------

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WILLIAM BOARDMAN A.B., University of South Carolina; A.M., Duke University	Durham, N. C.
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HINKLEY MURPHY A.B., Vanderbilt University; A.M., Columbia University	Tallahassee, Fla.
ROBERT A. WAGONER B.S., Purdue University	Durham, N. C.

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DAVID L. ARENBERG A.B., Johns Hopkins University	Baltimore, Md.
-----------------------------------------------------	----------------

DUKE UNIVERSITY

31

<i>Name</i>	<i>Home Address</i>
ROLAND S. ENGLEHART A.B., Davidson College	Washington, D. C.
N. BURTON GRACE A.B., M.S., University of Miami	Miami, Fla.
MALCOLM D. GYNTHIER A.B., A.M., Stanford University	Portland, Ore.
ORA M. JONES A.B., University of Georgia; A.M., Duke University	Jonesboro, Ga.
JOHN J. MALLET A.B., Oberlin College	Brooklyn, N. Y.
PAUL N. MILLER A.B., University of West Virginia	Romney, W. Va.
LON E. USSERY A.B., University of Richmond	Wilmington, N. C.

DEPARTMENT OF ZOOLOGY

RESEARCH ASSOCIATES

ATHOS OTTOLENGHI M.D., University of Pavia	Durham, N. C.
WINONA VERNBERG A.B., A.M., DePauw University; Ph.D., Purdue University	Durham, N. C.

RESEARCH ASSISTANTS

A. CARTER BROAD A.B., A.M., University of North Carolina	Beaufort, N. C.
CARY COOLIDGE A.B., Blue Mountain College; A.M., George Peabody College; Ph.D., Duke University	Nashville, Tenn.
JOHN D. COSTLOW, JR. B.S., Western Maryland College	Beaufort, N. C.
SAMUEL P. MARONEY, JR. A.B., Wesleyan University; A.M., University of Delaware	Wilmington, Del.
CHARLES W. SHUSTER A.B., Duke University	Glen Rock, N. J.
NANCY D. WOLFSON A.B., University of Wisconsin; M.S., University of Tennessee	Murray, Ky.

ESTABLISHED INVESTIGATOR OF THE AMERICAN HEART ASSOCIATION

BODIL SCHMIDT-NIELSEN D.D.S.; Dr. odont., University of Copenhagen	Durham, N. C.
-----------------------------------------------------------------------	---------------

CHARLES W. HARGITT RESEARCH FELLOW IN ZOOLOGY

PAUL L. RISLEY A.B., Albion College; M.S., Ph.D., University of Michigan	Eugene, Ore.
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Admission



TO GRADUATE SCHOOL. Admission may be granted to a student who has received an A.B. or B.S. degree from an accredited institution after a four-year course of study. The undergraduate record should be well-rounded and of such quality as to give positive evidence of capacity for success in graduate study.

Before admission can be granted, the student must submit for appraisal the following documents: (a) An official transcript of all his college or graduate work, to be forwarded directly from the Registrar of his college to the Dean of the Graduate School at Duke University. (b) Two or three letters of recommendation, to be furnished by persons best qualified to judge the applicant as a prospective graduate student. (c) The submission of scores on the Graduate Record Examination is required under the following conditions: (1) for all applicants for graduate work in the departments of Biochemistry, Economics, Education and Psychology; (2) when an applicant has taken the examination prior to his application to graduate study; (3) when requested by the Admissions officer to assist him in arriving at a decision as to the admission of the applicant. If the other documents of the applicant are satisfactory, he may be granted "provisional" admission until the Graduate Record Examination scores are submitted and accepted. Arrangements to take this examination can usually be made through officials of the student's college, or by correspondence with the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey.

APPLICATION PROCEDURE. A student desiring admission to the Graduate School, should request official application blanks from the Dean. These should be filled out fully and returned at the earliest moment. The other documents needed to complete the application, namely, transcripts, letters of recommendation, and, if required, the Graduate Record Examination scores, must be forwarded directly from the institutions or individuals to the Dean of the Graduate School. In no case will such documents be accepted from the student.

The application and all supporting documents should be submitted to the Dean of the Graduate School not later than August 1 by those applying for the fall semester, or January 1 by those applying for the spring semester. It is difficult to process properly applications received after these dates. It is the student's responsibility to make certain that his application is complete and in order before the dates specified.

When the application is accepted and approved, the student will receive a letter of admission, giving the date by which he must notify the Dean of the Graduate School of his intention to enroll for the term for which he is granted admission.

Admission, once granted, is valid only for the term or year specified. Should a student be unable to enter the Graduate School at that time but wishes later to be admitted to a subsequent term, he must re-apply for admission, following the usual procedure. But he need only bring his application up to date, if he re-applies within two years of the date when he was first admitted.

Registration

Once the student has received notification of his admission to the Graduate School, but not until then, he may present himself for registration. During the registration periods, announced in the *Bulletin*, he first confers with the Director of Graduate Studies of his major department, who prepares an Approval Card, listing the course work to be taken during the semester. The student then presents this Approval Card to the Graduate School, which enrolls him officially in his courses.

WHO MUST REGISTER. (1) All students who enter course work or residence for credit; (2) all students who have completed minimum requirements for the Ph.D. degree, but are using in their research the facilities of the University; (3) all students who wish merely to "audit" a course or courses.

LATE REGISTRATION. All students are expected to present themselves for registration at the time stated in the *Bulletin*. *Those registering after the close of the announced registration period will be charged a late registration fee of five dollars.*

Degrees Offered



THE Graduate School of Arts and Sciences now offers the following degrees: The Master of Arts (A.M.), The Master of Education (M.Ed.), The Master of Arts in Teaching (M.A.T.), The Doctor of Philosophy (Ph.D.), and The Doctor of Education (Ed.D.).

Regulations Concerning Master's Degrees

RESIDENCE REQUIREMENTS. Candidates for all Master's degrees must spend, as a *minimum*, one full academic year in residence at Duke University. Often more time will prove necessary, depending upon the nature of the student's research problem and upon the student himself. Students who wish to complete their degrees wholly by summer work must be in residence for 30 weeks, and present 30 semester hours of registered credit.

ADMISSION TO CANDIDACY. In order to be considered a candidate for a Master's degree (A.M., M.Ed., M.A.T.) a student must (1) have received the approval of the major department, or in the case of the M.A.T., of his committee, (2) have made passing grades in all his courses during his first semester (If he registers for fewer than 12 semester hours of graduate courses during his first semester, or if he is enrolled in the Summer Session, he must make passing grades in his initial 12 hours of graduate courses.), (3) have made a grade of "G" or "E" on at least 3 semester hours of this work.

If he does not fulfill these conditions on the initial semester hours, but does better work, signified by a substantial number of "G's" or "E's" in a subsequent term, he may be granted permission then to re-apply for candidacy.

TRANSFER OF GRADUATE CREDITS. Credit for graduate course work earned at another institution will be determined only after a student has spent one semester at Duke University. After completing his first semester, the student should file a request that his credits be reviewed and a decision made.

Under certain circumstances a maximum credit of 6 semester hours may be allowed for graduate courses completed elsewhere. The acceptance of credit up to this amount, however, will not reduce the minimum period of full-time registered residence at Duke University.

With the approval both of the student's major department and the

Dean of the Graduate School, a student who is granted such transfer credit may be permitted to register for as much as 12 semester hours of thesis research instead of the usual 6 semester hours. Or he may be permitted to fill out his schedule with as much as 6 semester hours of further undergraduate training or 6 semester hours of required language courses on the undergraduate level. In no case will credit be allowed for extension or correspondence courses.

TIME LIMITS FOR COMPLETION OF MASTER'S DEGREES. The candidate for a Master's degree must complete all of the requirements within a period of six calendar years from the date of his initial registration. Credits earned over a longer period of time cannot be credited toward a degree.

THE THESIS. The thesis should demonstrate the student's ability to collect, arrange, interpret, and report pertinent material on his special research problem. Although a publishable document is not required, the thesis must be written in a literate style and should exhibit the student's competence in scholarly methods and procedures.

The Master of Arts Degree

UNDERGRADUATE PREREQUISITE. As a prerequisite to graduate study in his major subject, the student must have completed a *minimum* of 12 semester hours of approved college courses in that subject, and 12 additional semester hours in that subject or in related work. Since some departments require more than 12 semester hours, the student should read carefully the special requirements listed by his major department, which are included as headnotes to the course offerings in the *Bulletin*.

LANGUAGE REQUIREMENTS. The candidate for the A.M. degree must have a reading knowledge of at least one foreign language. (The several departments reserve the right to specify which foreign languages are acceptable.) Evidence of such knowledge may be furnished in either of two ways: (1) by successfully passing an examination, officially conducted by the appropriate foreign language department at Duke University, or (2) by a transcript showing the completion of the third college year of one language, or the second college year of each of two acceptable foreign languages.

MAJOR AND MINOR SUBJECT. In his graduate work, the student, in order to complete the course requirements for the A.M. degree, must present acceptable marks for a minimum of 24 semester hours of graduate courses. Of these, at least 12 semester hours must be in the major subject.

Outside of his major, the student must take a minimum of 6 semester hours in a minor subject. The selection of the minor must be ap-

proved by his major department. The remaining 6 semester hours of the necessary 24 may be taken in either of these departments, or in another approved by the major department and by the Dean of the Graduate School. In addition to these he must present a thesis, which carries a credit of 6 semester hours. Thus, his earned credit for the degree totals a minimum of 30 semester hours.

REGULATIONS AND PROCEDURES. On or before November 15 of the academic year in which the degree is expected to be conferred, the student must file with the Dean of the Graduate School, on the official form, the title of the thesis. This title must have the approval of the Director of Graduate Studies in the major department, and of the professor under whose direction the thesis will be written.

The student who completes all of his work for the degree and who expects to receive it at the regular commencement exercises in June, must so notify the Graduate School office before the March 15 preceding.

Four bound, typewritten copies of the thesis must be submitted, in approved form, to the Dean of the Graduate School on or before May 1 preceding the June commencement at which the degree will be conferred. The copies will then be distributed to the several members of the examining committee. As specified by the Graduate Faculty, the thesis must be typed on the following grades of paper: the original must be green-lined paper of at least sixteen pound weight; the three copies must be on paper of at least thirteen pound weight. Both grades must be of seventy-five per cent rag content.

THE EXAMINING COMMITTEE AND THE EXAMINATION. After consultation with the professor who has directed the thesis, the Dean of the Graduate School appoints an examining committee composed of the director of the thesis and two other members of the Graduate Faculty, one of whom must be from a department other than that of the major.

The candidate appears before this committee for examination, which usually is restricted to the thesis and to the major field, and which lasts for about one and one-half hours.

If the candidate successfully passes his examination, the examining committee certifies this fact by signing the title page of the thesis. The candidate then returns the original and one carbon copy of the thesis to the Dean of the Graduate School, who deposits them in the University Library.

The Master of Education Degree

PREREQUISITE. The degree of Master of Education is granted ordinarily only to teachers or to others engaged in educational work.

Before a student is admitted to graduate study for this degree, he

should have completed, on the undergraduate level, a minimum of 18 semester hours of approved work in education, including courses in Educational Psychology, and courses in the History of Education, Educational Sociology, or School Administration.

Early in the program of his work, the student must pass two examinations: (1) a test of general ability, and (2) a test designed to determine his ability to write acceptable English. The student, before the degree is conferred, must also present evidence testifying to at least two years of teaching experience, gained either before his admission to course work, or concurrently with it.

REQUIREMENTS FOR THE DEGREE. The M.Ed. degree may be earned either with or without the presentation of a thesis:

WITHOUT THESIS: Students who elect this plan must present a total of 30 semester hours of credit. Twelve hours of this required work must include the four basic courses: Education 204, 210, 217, and 235. If a student, by examination, can demonstrate his competency in the subject matter of two of these courses, he may be granted exemption from the required work in these courses. In no case may he claim exemption from more than two.

Other requirements are: a departmental major (i.e., in Elementary Education, Public School Administration, Public School Supervision, or Secondary Education) of at least 12 semester hours, and a minor of at least 6 semester hours in a department other than Education. Toward the end of his residence the student must pass a comprehensive examination on his departmental major and on the content of the four basic courses. Permission to take such examinations must be obtained from the Director of Graduate Studies of the Department of Education, and a notice of intention must be filed with him at least three weeks before the announced dates of the examination.

WITH THESIS: Students who elect this plan are permitted to substitute a thesis for 6 semester hours of the required course work. He must also present a thesis subject approved by the Professor of Education who intends to direct it, and by two other members of the staff in Education, including the Director of Graduate Studies. Two of the three members of the approving committee must be permanent members of the Duke University Graduate Faculty. The title of the thesis must be filed with the Dean of the Graduate School on or before November 15 of the academic year in which the degree is expected to be conferred.

In addition to the thesis, the student must present at least 24 semester hours of course credit. Of these, 6 semester hours must be earned in *two* of the basic courses in the Department: Education 204, 210, 217, or 235. Of the remaining 18 or more semester hours, 6 semester hours must constitute a minor taken outside of the De-

partment of Education; at least 12 semester hours must be taken in the student's departmental major.*

The examination on the thesis is similar to that for the Master of Arts degree.

The Master of Arts in Teaching Degree

PREREQUISITES. The degree of Master of Arts in Teaching is designed for teachers already in service and for recent graduates of Liberal Arts colleges who wish to enter public school teaching.

A student should normally have completed a minimum of 12 semester hours in his proposed major subject and an additional 12 semester hours in that or related subjects. In the event that a student wishes to undertake a graduate major different from the undergraduate major, the prerequisites may be modified upon the recommendation of the student's committee and the approval of the Dean of the Graduate School.

PROGRAMS FOR THE DEGREE. One of two programs may be arranged, in consultation with the student's committee:

A. A major in Education of 18 to 24 semester hours and 6 to 12 hours in non-education courses.

B. A major in non-education courses of 18 to 24 semester hours and 6 to 12 semester hours in Education.

In both programs a minimum of 30 semester hours is required.

The non-education courses are to be taken in one or more subjects ordinarily taught in the secondary schools. The amount and distribution of this work will be determined by the needs of the individual student.

The Master of Arts in Teaching may be earned with or without the presentation of a thesis. If a student, in consultation with his committee, elects to present a thesis, 6 semester hours of the total of 30 semester hours required will be allotted to thesis research. He will then be required to complete 24 semester hours of course credits. The regulations concerning the writing and submission of the thesis, and the examination of it, are the same as those governing the thesis for the Master of Arts degree.

THE COMMITTEE. Each candidate for the degree will be assigned a committee, appointed by the Dean of the Graduate School, to plan his program of study. This committee will consist of three members, at least one of whom will be from the Department of Education, and at least one from another department. The chairman of the committee will normally be chosen from the department of the major.

* Those who expect to attend Summer Sessions should consult the statement on page 57 regarding course requirements.

The Doctor of Philosophy Degree

The Ph.D. degree is essentially a research degree. Although course work is a necessary part of the student's program, the mere accumulation of course credits will not be sufficient for attaining this degree. The granting of the Ph.D. is based primarily upon the student's knowledge of a specialized field of study and upon the production of an acceptable dissertation embodying the results of original research.

Before undertaking a program of advanced work toward the Ph.D., the student should consult with the Dean of the Graduate School or the Director of Graduate Studies in his major department to determine the possibility of securing necessary instruction and supervision of research in his field of specialization.

REQUIREMENTS FOR THE PH.D. DEGREE. The formal requirements, discussed in detail below, for the Ph.D. degree are as follows: (1) foreign languages; (2) major and minor courses; (3) supervisory committee for program of study; (4) residence; (5) preliminary examination; (6) dissertation; (7) final examination.

FOREIGN LANGUAGES. Normally, a reading knowledge of both French and German is required. Such knowledge is evidenced by the passing of an examination conducted by the appropriate language department at Duke University, in cooperation with the student's major department.*

With the permission of the major department, and with the approval of the Dean of the Graduate School, a student may be allowed to substitute for either of these another language which has a definite relation to the candidate's program of work for the Ph.D. degree. By rule of the Graduate School Faculty, language examinations must be passed before a student takes his preliminary examination. Some departments require the student to master these languages early in the graduate program.

MAJOR AND MINOR. The student's program of study necessarily demands substantial concentration on courses in his major department. Enough work must be taken in another department to constitute an acceptable minor. Exceptions which permit both the major and minor within the same department are allowed only by the special permission of the Dean of the Graduate School.

COMMITTEE TO SUPERVISE THE PROGRAM OF STUDY. Ordinarily, during the student's third semester of graduate work a supervisory committee of five members is appointed by the Dean of the Graduate School. This committee, with the professor who is to direct the student's research serving as chairman, formulates the program of study, which is submitted to the Dean of the Graduate School

* See pp. 5-6 for the dates of these examinations.

for his approval. Of the five members, one must be from a department (usually the minor) other than the major department. This committee, with occasional necessary changes, serves also as the examining committee for both the preliminary and the final Ph.D. examinations.

RESIDENCE. The normal period of residence is not less than three full academic years beyond the A.B. or B.S. degree. A student who already has his A.M. degree may be allowed one year of residence for it, and thus will need to spend a minimum of two additional years in residence.* In unusual cases, a student who has spent the first two years in residence at Duke University may be allowed to take his third year of residence at some other accredited institution. This can be done only with the approval of the major department and of the Dean of the Graduate School. It should be understood that either the first two years or the last year must be spent in actual residence at Duke. Occasionally, because of undergraduate deficiencies, a student may need to spend additional time beyond the minimum residence in preliminary courses (for which he will not receive residence credit) as a background for certain aspects of his graduate program.

Except in unusual cases, graduate work of fragmentary character taken over a long period of years, or work completed many years before the student becomes a candidate for the degree at Duke University, will not be accepted as satisfying the requirements of residence.

CREDIT FOR SUMMER WORK. With the approval of the major department and of the Dean of the Graduate School, credit for a maximum of one year's residence may be granted for work completed in Summer Sessions. A full schedule of summer courses, carried for six weeks, constitutes one-fifth of a year's residence credit.

PRELIMINARY EXAMINATION. Near the end of the second academic year of graduate work (or in special cases early in the third year) the student must take his preliminary examination, which ordinarily covers the field of both his major and minor. Conducted by his Supervisory Committee, the examination is oral, or written, or both, as determined by the Committee. *Upon passing this examination, and not until then, the student is accepted as a candidate for the Ph.D. degree.* Transfer students who may already have passed a preliminary examination at another university must nevertheless take the examination at Duke.

PRIVILEGE OF RE-EXAMINATION. Should the student fail the preliminary examination, he may apply, with the consent of his Supervisory Committee and of the Dean of the Graduate School, for the privilege of a second examination to be taken no sooner than six months after the date of the first. Failure on the second examination

* See page 44 for rules regarding transfer of graduate credit.

will render the student ineligible to continue his program for the Ph.D. degree at Duke University.

THE DISSERTATION. The dissertation is expected to be a mature and competent piece of writing, embodying the results of significant and original research. It must be, in essence, a contribution to knowledge.

The subject for the dissertation must receive the written approval of both the Director of Graduate Studies of the student's major department and of the professor who directs the dissertation. The title of the dissertation must be filed with the Dean of the Graduate School on or before October 15 preceding the June commencement at which the degree is expected to be conferred.

The dissertation must be completed to the satisfaction of the professor who directs it; and four bound, typewritten copies in approved form must be deposited with the Dean of the Graduate School on or before April 15 preceding the June commencement when the degree is to be conferred.

As specified by the Graduate Faculty, the dissertation must be typed on the following grades of paper: the original must be green-lined paper of at least sixteen pound weight; the three copies must be on paper of at least thirteen pound weight. Both grades must be of seventy-five per cent rag content.

The form of the title page must be approved by the major department and by the Dean of the Graduate School.

A biographical sketch of the author of the dissertation must be bound in at the end of each copy. Ten copies of a brief summary must be submitted with the dissertation.

After the final examination the original and the first carbon copy of the approved dissertation are returned to the Dean of the Graduate School for deposit in the University Library.

DISSERTATION FEE AND PUBLICATION REQUIREMENT. Not later than May 1 preceding the June commencement when the degree is to be conferred, the candidate must deposit with the Treasurer of the University, a dissertation fee of \$50.00. Should the dissertation be published in a form satisfactory to the professor under whom it was written, and to the Dean of the Graduate School, within a period of three years from the date of the degree, the deposit fee will be returned to the student.

Three copies of each published dissertation must be deposited with the Dean of the Graduate School, as provided by the regulation of the Graduate School Faculty. A suitable abstract or one or more articles in published form may be accepted as satisfying the publication requirements. Three copies of each of these must be deposited with the Dean of the Graduate School.

If the dissertation is not published within a three-year period under the conditions stated above, the deposit fee is forfeited and is credited to a Special Dissertation Fund, which is used for subsidizing the publication of such dissertations as are recommended by the Graduate School Faculty.

FINAL EXAMINATION. The final oral examination shall be primarily on the dissertation. Questions may, however, be asked in the candidate's major field. Normally, one year must elapse between the dates of the preliminary and the final examinations.

If a student fails his final examination, he may be allowed to take it for a second time, but not sooner than six months from the date of his first. Permission to take the second examination must be obtained from the professor who directed the dissertation and from the Dean of the Graduate School. Failure to pass the second examination renders the student ineligible to continue work for the Ph.D. degree at Duke University.

The Doctor of Education Degree

The Doctor of Education is a professional degree and is granted only to those who are, or intend to become, public school administrators.

ADMISSION. The candidate for the Ed.D. degree must meet the same requirements for admission to the Graduate School as the candidate for the Ph.D. degree. In addition to these uniform requirements, the candidate for the Ed.D. (1) must have had at least three years of experience in public school work, preferably in school administration; (2) must make a satisfactory mark on a psychological examination, and demonstrate, by examination, his ability to write good English; (3) must present strong letters of appraisal and recommendation from persons well qualified to speak with authority of his abilities; and (4) must present himself, if possible, for a personal interview. The Standing Committee on the Ed.D. degree reserves the right to insist upon an interview.

RESIDENCE. A minimum period of residence equivalent to three academic years beyond the A.B. or B.S. degree is required for the Ed.D. degree. Either the first two years or the last year must be taken at Duke, and the candidate must spend at least two consecutive semesters at Duke. Occasionally, because of undergraduate deficiencies, a student may need to spend additional time beyond the minimum residence in preliminary courses (for which he will not receive residence credit) as a background for certain aspects of his graduate program.

Except in unusual cases, graduate work of fragmentary character taken over a long period of years, or work completed many years before

the student becomes a candidate for the degree at Duke University, will not be accepted as satisfying the requirements of residence.

ACCEPTABLE MARKS ON FIRST YEAR'S WORK. In order to be considered for candidacy for the Ed.D. degree, the student must have passed all of his course work in the first year of graduate study; on at least 9 semester hours he must have made a grade of "G" or better.

PRELIMINARY EXAMINATION. By the end of his second year of residence the candidate for the Ed.D. degree will take a preliminary examination similar in scope to that described for the Ph.D. degree. Only after he passes this examination, will he be considered a candidate for the degree.

DISSERTATION FEE AND PUBLICATION REQUIREMENT. The dissertation fee and the publication requirement are the same as those for the Ph.D.

DISSERTATION AND FINAL EXAMINATION. The candidate must write a dissertation which demonstrates his ability to investigate and report on some significant phase of public school administration. The details of dissertation presentation, including its defense in a final examination, are the same as those for the Ph.D. degree.

AWARDING OF THE DEGREE. After the completion of the formal academic requirements for the Ed.D. degree, the candidate must devote at least one year of apprenticeship in a public school system, under conditions which assure appropriate supervision of the candidate's activities. The Standing Committee on the Ed.D. degree will decide the adequacy of this training. The degree will not be formally awarded until after the successful completion of this apprenticeship.

PROGRAM OF WORK. The details of the program of work are determined for each candidate by the Standing Committee for the Ed.D. degree. In general, the first year of work follows the program laid down for the M.Ed. degree. In the second and third years, work in Public School Administration is organized on the basis of seminars rather than separate courses. This professional, specialized study accounts for about one-third of the course work. The other two-thirds is divided almost equally between the general field of Education and related work.

MAJOR AND MINOR. The major field is Public School Administration. The minor, or related work, amounting to at least 24 semester hours, must be taken in economics, political science, and sociology. Courses necessary for the student's program which lie outside these fields must receive the approval of the Standing Committee.

General Regulations

SIZE OF CLASSES. Classes which carry graduate credit are limited in size to twenty-five students. In exceptional cases this regulation may be modified, but only by permission of the Executive Committee of the Graduate School Faculty on the recommendation of the department concerned.

GRADING OF GRADUATE STUDENTS. Grades in the Graduate School are as follows: "E," "G," "S," "F," and "Inc." "E" (exceptional) is the highest mark. "G" (good) and "S" (satisfactory) are the remaining passing marks. "F" (failing) is below passing, and "Inc." (incomplete) indicates that some portion of the student's work is missing, for a satisfactory reason, at the time the grades are made out. The professor who gives an "Inc." specifies the date by which time the student must have made up the deficiency. In no case may an extension be granted beyond one calendar year from the date the course ended. No residence credit can be granted for that portion of a student's program which lapses because of incomplete marks.

CHARGE FOR REQUESTED TRANSCRIPTS. A student who wishes to transfer his credits from Duke University to another institution is entitled to one free transcript of his record. A fee of one dollar, payable in advance, is charged for each additional copy.

TRANSFER OF GRADUATE CREDITS. Credit for graduate course work earned at another institution will be determined only after a student has spent one semester at Duke University. After completing his first semester, the student should file a request that his credits be reviewed and a decision made.

WITHDRAWAL FROM GRADUATE SCHOOL. If a student wishes to withdraw from the Graduate School, he should notify both the Director of Graduate Studies in his major department and the Dean of the Graduate School.

GRADUATE CREDIT EARNED BEFORE A.B. DEGREE IS GRANTED. Ordinarily no credit for graduate courses earned before a student has been awarded his A.B. or B.S. degree will be allowed. However an undergraduate student at Duke University, who, at the beginning of a semester, lacks no more than 9 semester hours for fulfilling the requirements for the A.B. or B.S. degree, may obtain permission from the Dean of the Graduate School to enroll for graduate courses sufficient to bring his total program to fifteen hours a week. Such graduate courses will be credited toward the A.M., M.Ed., or M.A.T., provided that the student meets the requirements for admission to the Graduate School, and that he is duly registered in the Graduate School at the beginning of that term.

Awards and Fees



Fellowships, Scholarships, and Assistantships

FOR the encouragement and financial assistance of graduate students of high character and marked ability, Duke University has established a considerable number of fellowships, scholarships, and assistantships. The stipends for these range from \$470 to \$2,000. Holders of grants pay tuition and other fees regularly required of all graduate students.

Fellows and scholars pay full tuition and fees and are registered for a full schedule of course work and receive full residence credit. In general, assistants pay four-fifths tuition and fees, are registered for a four-fifths schedule, and receive four-fifths residence credit.

APPLICATION FOR GRANTS. Applications for these grants, along with all supporting documents, must be submitted on or before March 1. Notification of awards is made about April 1. Late applications will be considered, should any vacancies occur in the list of appointees. No appointment is made for longer than one academic year.

Further information and application forms may be obtained from the Dean of the Graduate School, Duke University.

Grants offered for 1955-56 are:

FELLOWSHIPS. One Angier Duke Memorial Fellowship of \$2,000; three Gurney Harriss Kearns Fellowships in Religion of \$1,200 each; University Fellowships with stipends ranging from \$1,000 to \$1,800.

GRADUATE ASSISTANTSHIPS. Appointments as departmental assistants or readers will be available for graduate students. The stipend will be in the range of \$800 to \$2000 depending upon the fraction of time given to assisting, the qualifications of the the assistant, and the nature of work assigned.

GRADUATE SCHOLARSHIPS. Scholarships with stipends varying from \$400 to \$1,500 each.

CHARLES W. HARGITT RESEARCH FELLOWSHIP IN ZOOLOGY. The Charles W. Hargitt Fellowship in Zoology is limited to research in the field of cellular studies. It is primarily for post-doctoral applicants and established investigators on sabbatical leave who desire to engage in full-time research. The stipend will

vary, depending upon previous training and experience, but in general will provide an income equivalent to that of a first year instructor and may be higher in the case of established investigators.

The recipient will have no departmental duties, but space and facilities will be provided.

The fellowship may occasionally be granted to a pre-doctoral applicant in his final year of graduate work who has met all degree requirements other than completion of research, and whose research gives promise of unusual merit.

Appointment is for one year with the possibility of reappointment. Inquiries and applications should be made to Dr. Henry S. Roberts, Department of Zoology, Duke University, Durham, North Carolina.

FELLOWSHIPS AND GRADUATE SCHOLARSHIPS IN FORESTRY. Information regarding special fellowships and graduate scholarships in forestry may be obtained from the Dean of the School of Forestry, Duke University, Durham, North Carolina.

SIGMA XI PRIZE AWARDS. The Society of Sigma Xi offers each year a prize for a Master's thesis and a prize for a Ph.D. dissertation in the fields of botany, chemistry, forestry, mathematics, medicine, physics, psychology, and zoology. The student must be in residence during the academic year in which the prize is awarded. Students holding graduate appointments are eligible to compete, but instructors, part-time instructors, and interns are not eligible. The department concerned makes the nomination. Full particulars may be obtained from the secretary of the chapter. Nominations, recommendations, copies of theses, reports, or other materials must be in the hands of the secretary on or before May 1. All papers should be submitted in duplicate.

Tuition, Fees, and Expenses

GENERAL FEES IN THE ACADEMIC YEAR. The following table shows the general fees and charges collected from all students. All fees for each semester are due and payable, unless otherwise specified, at the time of registration at the beginning of that semester. No student is admitted to classes until arrangements have been made with the Treasurer of the University for the settlement of fees.

Tuition, per semester.....	\$225.00
General Fee,* per semester.....	60.00
Athletic Fee, not including Federal Tax, Optional, per year, payable in the fall semester	10.00
Room-rent—See detailed statement below.	
Special Dissertation Fee, payable by candidates for the Ph.D. degree, on or before the May 1 preceding the granting of the degree.....	50.00

* General Fees, in lieu of most special charges, include the following fees: Matriculation. Medical, Library, Damage, Commencement, Diploma, and an average of the Laboratory and Materials Fees.

Living Accommodations

Women graduate students occupy Epworth Hall, which provides facilities for fifty-seven women, on the Woman's College Campus. Dining hall facilities are not available in Epworth Hall. Meals may be had in the cafeterias of the Unions. The rental charge for a single room is \$250.00 for the academic year, or \$125.00 each semester. The rental charge for a double room is \$400.00 for the academic year, or \$100.00 for each occupant each semester. There are no lodging facilities on campus for married couples. Such students should plan to arrange for rooms or apartments in private homes in the city. The Housing Bureau maintains a file of rooms and apartments listed with it for rental. Students may use this file as an aid to locating suitable lodging accommodations.

The Men's Graduate Center is available to men of the graduate and professional schools. It has facilities for four hundred men, complete with lounges, study rooms, recreational rooms, post office and dining hall. The rooms are equipped for two persons and the rental charge for a double room is \$350.00 for the academic year, or \$87.50 for each occupant each semester.

Rooms are rented for a period of not less than one semester, or in the case of a medical student, one quarter, and without special arrangements, the rate is \$1.00 per day with a minimum charge of \$25.00.

Room reservations are made through the Housing Bureau only after official acceptance for admission to the University. A \$25.00 room deposit is required of each applicant before a room reservation is made. The initial room deposit is effective during the student's residence in the University if attendance is continuous in regular academic years.

This deposit will be refunded under the following conditions:

- a. Within thirty days after the student has been graduated.
- b. Upon withdrawal from the University, provided written notice is received in the Housing Bureau by August 1, for cancellation of a reservation for the fall semester; and not later than January 15, for cancellation of a reservation for the spring semester.
- c. When the reasons requiring withdrawal are beyond the student's control.

No refund is made until the occupant has checked out of his room through the Housing Bureau and has settled all of his account with the Treasurer.

A resident student, in order to retain his room for the succeeding academic year, must make application at the office of the Housing Bureau for confirmation of the reservation in accordance with the plan that is published during the school year.

Any exchange of rooms must be arranged at the Housing Bureau.

Persons exchanging rooms without the approval of the Housing Bureau will be subject to charges for both rooms.

The authorities of the University do not assume responsibility for the persons selected as roommates. Each student is urged to select his roommate when the room is reserved.

Beds and mattresses (39"x74"), tables, chairs, dressers, mirrors, and window shades are furnished by the University. The student supplies linens, blankets and pillows. Rugs, totaling not more than 54-square-feet, study lamps and curtains are permissible, and if desired, are furnished by the room occupants.

Regulations governing the occupancy of rooms will be supplied directly from the Housing Bureau when room reservations are made. Occupants are expected to abide by these regulations.

BOARD. Food service on both the Woman's College Campus and the West Campus is cafeteria style. The cost of meals approximates \$1.75 to \$2.25 per day depending upon the need and taste of the individual. The dining facilities on the West Campus include three cafeterias with multiple choice menus and, in addition, the Oak Room, where full meals and *a la carte* items are served. The Men's Graduate Center has a cafeteria open at meal hours, and a coffee lounge which is open until 11:00 P.M. The prices are the same as in the West Campus Union.

ESTIMATED EXPENSES IN THE ACADEMIC YEAR. The necessary expenses of a graduate student are moderate. The University dormitories and Unions provide comfortable and wholesome living conditions at a minimum cost. Incidental expenses for recreation, traveling, clothes, and other items naturally depend on the tastes and habits of the individual. The table below lists the necessary college expenses for one year for a full program of work:

	<i>Low</i>	<i>Moderate</i>	<i>Liberal</i>
Tuition	\$ 450	\$ 450	\$ 450
General Fee.....	120	120	120
Room rent	175	200	225
Board	400	450	500
Laundry	25	30	35
Books	30	40	50
	<u>\$1200</u>	<u>\$1290</u>	<u>\$1380</u>

PAYMENTS TO HOLDERS OF GRANTS. Payments of stipends to holders of fellowships and scholarships are made by the University Treasurer in four equal installments—November 20, January 20, March 20, and May 20. Payments to graduate assistants are made in eight monthly installments, payable on the 20th of each month beginning October 20. Arrangements may be made to pro-rate tuition charges on the same basis.

SPECIAL CHARGES FOR TEACHERS AND OTHERS. In order to assist North Carolina teachers in their professional preparation, Duke University grants a special tuition rate to members of the faculties of neighboring public schools and colleges, currently engaged in full-time teaching while taking courses in the Graduate School of Arts and Sciences.

Other persons eligible for these special fees include full-time employees of Duke University who are paid on a monthly basis throughout the year, ministers of neighboring churches, and wives of Duke faculty members. In no instance do these reduced rates apply to teachers and ministers while on leave of absence.

Such persons may enroll for one or two courses (in no case totalling more than 7 semester hours per semester) upon the payment of a fee of \$5.00 for registration for each semester and a tuition fee of \$5.25 per semester hour of credit.

These special fees do not apply to the holders of fellowships, scholarships, or assistantships, or to part-time instructors.

The student must meet the same admission standards required of all graduate students. No more than two-fifths residence credit per year may be earned under this reduced-tuition arrangement.

Facilities for Graduate Study



The Libraries

THE University Libraries contained 1,159,500 volumes on July 1, 1954. In addition to the collections in the General Library, there are eight school and departmental libraries: Divinity, 67,025 volumes; Engineering, 21,275 volumes; Law, 102,775 volumes; Medical, 56,200 volumes; Woman's College 101,350 volumes; Biology-Forestry 51,025 volumes; Chemistry, 15,975 volumes; Mathematics-Physics, 16,775 volumes. In 1953-54 36,000 volumes were added; 3,975 periodicals and 81 newspapers are received currently.

The General Library building, which was doubled in size in 1949, incorporates many modern arrangements for the preservation of the collections and for the convenience of the research scholar. Book stacks, storage areas, and quarters for rare books and manuscripts are air-conditioned. In the stacks, 250 carrels are available to graduate students as places of study, and a large reading room on the first floor of the building is reserved for graduate students. Upon application, graduate students may receive permit cards entitling them to use of the stacks.

A division of photographic services, with the most modern cameras and other equipment for microfilming or other photographic reproduction of printed and manuscript materials, provides a battery of reading machines to serve the Library's large collection of microfilms of rare books, periodicals, and newspapers.

The extensive resources of the Library for research students may be suggested by the following special collections:

THE TRENT COLLECTION OF WALT WHITMAN, containing the first and all other important early editions or issues of *Leaves of Grass*; books and articles of Whitman biography and criticism; nearly 300 manuscripts and 400 letters; and pictures, sheet music and other miscellanea.

THE GEORGE WASHINGTON FLOWERS COLLECTION of books, manuscripts, pamphlets, and newspapers on all phases of Southern history.

THE ARENTS COLLECTION of several hundred volumes relating to the culture and production of tobacco and the manufacture and distribution of tobacco products.

THE JAMES A. THOMAS COLLECTION of books on Chinese history and culture.

THE GUIDO MAZZONI LIBRARY, a collection of approximately 23,000 volumes and 67,000 pamphlets covering the whole range of Italian literature, with special strength in the nineteenth century.

THE GUSTAVE LANSON LIBRARY of 12,000 books and monographs on French literature.

LATIN-AMERICAN COLLECTIONS, built around a special Peruvian library of 7,000 books and manuscripts, a Brazilian library of several thousand volumes, and an Ecuadorian library of 2,000 volumes, supplemented by strong collections of the public documents of these and other Latin-American countries.

THE ROBERTSON LIBRARY of Philippiniana.

THE FRANK C. BROWN FOLKLORE COLLECTION, consisting of about 38,000 manuscript pieces, 1,400 vocal recordings, and 650 musical scores of North Carolina folklore.

THE STRISOWER LIBRARY of International Law, numbering about 5,000 volumes, with many rare books and periodical files.

THE HOLL CHURCH HISTORY LIBRARY, dealing primarily with the period of the Reformation.

COLLECTIONS IN ENGLISH AND AMERICAN LITERATURE, where emphasis has been placed principally on the eighteenth and nineteenth centuries, with collections of Swinburne, Tennyson, Rossetti, and Bryant, significant groups of annotated copies and first editions of Coleridge and Byron, the Carroll Wilson collection of Emerson, some 5,000 items of eighteenth-century English poetry and prose, and the Paul Hamilton Hayne library of American literature.

In addition to these and other special collections, the Libraries contain excellent files of United States federal and state documents, public documents of many European and Latin-American countries, and publications of European academies and learned societies. The newspaper collection, with 13,000 volumes and 4,375 reels of microfilms, has several long eighteenth-century files, strong holdings of nineteenth-century New England papers, and of ante-Bellum and Civil War papers from North Carolina, South Carolina, and Virginia; there are also many European and Latin-American papers. The manuscript collection of more than 1,550,925 items is particularly strong in all phases of the history, politics, and social and economic life of the South Atlantic region, though it includes also significant papers in English and American literature, and several notable medieval manuscripts in both Greek and Latin.

HISPANIC STUDIES PROGRAM. The Graduate School offers an inter-departmental program of Hispanic studies leading to the A.M.

and Ph.D. degrees. Students may write their theses and take their degrees in history, economics, political science, sociology, and Hispanic languages and literatures. The purpose of the program is to make possible desirable combinations of courses on the Hispanic world in these related disciplines and to bring to bear more strength of the faculty upon the training of a single candidate. This may be achieved through a judicious use of minors or by such special arrangements as may from time to time become necessary.

The Duke University Library holdings have been built up to facilitate graduate work and research in Hispanic-American cultural history, inter-American relations, economic history, politics, and Spanish-American literature. These collections are being constantly enlarged.

Science Laboratories

BOTANICAL AND ZOOLOGICAL LABORATORIES. Facilities for graduate study in the Department of Botany and Zoology are found on both the East and the West Campuses. In addition to well-equipped laboratories for teaching and research in the various fields of botany and zoology, special facilities, such as animal rooms, greenhouses, darkrooms, a small shop, a refrigerated room, and air-conditioned rooms, are available.

The Botany Herbarium, containing over 150,000 specimens, is particularly strong in material from the Southeast and includes notable collections of mosses, ferns, and grasses. The Biology-Forestry Library contains an outstanding collection of books and serials, including most of the important American and foreign periodicals in botany, forestry, zoology and related fields.

Unique assets for teaching and research are the Sarah P. Duke Gardens, conveniently accessible on the West Campus; the Duke Forest, comprising some eight thousand acres of woodland adjacent to the West Campus; and the Duke University Marine Laboratory at Beaufort, North Carolina. The marine station is exceptionally well located for the study of animal and plant life in the ocean and in the coastal plain area. Graduate courses of instruction are given at the Marine Laboratory during the summer months; research facilities are available throughout the year.

Scholarships for advanced study during the summer months are maintained at the Highlands Laboratory, Highlands, North Carolina, at the Marine Biological Laboratory, Woods Hole, Massachusetts, and ten scholarships are offered at the Duke University Marine Laboratory at Beaufort. Requests for information concerning the scholarships at the Highlands Laboratory should be addressed to the Botany Department, those concerning scholarships at Woods Hole to the Zoology Department, and those concerning scholarships at Beaufort to Dr. C. G.

Bookhout, Director of the Marine Laboratory, c/o the Zoology Department.

PHYSICAL LABORATORIES. A new and completely modern Physics building with 62,500 square feet of floor space, has recently been completed.

In addition to the lecture halls and the elementary laboratories, the building includes special laboratories for work in electrical measurements, electronics, microwaves, optics, atomic and nuclear physics, low temperature physics, and mechanics, and a new laboratory for training in radioactive measurements. Special equipment includes: a 21-foot concave grating and other instruments for visible, ultraviolet, infrared, and Raman spectra; instruments for research in microwaves and microwave spectroscopy; crystal counters, proportional counters, ion chambers for use in cosmic ray and nuclear research; a four-million volt Van de Graaff accelerator, and associated equipment for nuclear physics research; a helium liquefier, and other cryogenic equipment.

The Physics building contains a departmental library, a liquid air plant, and a shop staffed by four instrument mechanics, two electronic mechanics, and a glass blower.

CHEMICAL LABORATORIES. Graduate work in chemistry is carried on in a modern building with a floor area of about 57,000 square feet. Of this total space a large proportion is available for research and advanced teaching. A number of specially designed rooms are available for present or future research, such as a photographic room, constant temperature room, and rooms equipped for dielectric constant and infrared, visible and ultraviolet spectrophotometric measurements.

A glassblowing room and a well-equipped shop, operated by a competent mechanic, provide facilities for the construction of special apparatus and for the repair and maintenance of instruments.

A departmental library located in the building provides reference material for all ordinary needs.

PSYCHOLOGY LABORATORIES. Graduate work in psychology is carried on in two adjacent buildings providing about 16,000 square feet of floor space. Over twenty rooms are devoted to research. In addition to general research space, a number of rooms are specifically equipped for research in perception, visual processes, and human and animal learning. Additional special apparatus includes automatic computation equipment for research in test construction. A departmental shop, with a competent technician in charge, is maintained for the design, construction, and maintenance of special apparatus.

A number of clinical installations for adults and children, devoted to an extensive range of clinical and guidance problems, cooperate with the Department in providing additional facilities for training and

research in clinical psychology. In addition, a nursery school is maintained in the laboratory.

MEDICAL SCHOOL. In the School of Medicine elaborate facilities are provided for post-graduate research in the various branches of medical science. The Departments of Anatomy, Bacteriology, Mycology and Immunology, Biochemistry and Nutrition, and Physiology and Pharmacology offer certain courses and research facilities to students in the Graduate School of Arts and Sciences. The Duke Hospital Library is available to all graduate students.

Visiting Scholars

The libraries and, to the extent practicable, other facilities of Duke University will be made available to faculty members of colleges and universities who wish to spend a period of time on the campus in pursuit of their scholarly interests. No fees will be charged such visitors unless they wish to participate in activities for which a special fee is assessed. Room and board may be arranged for at the regular rates in the dormitories and dining halls. Dormitory space is usually available during the summer months. Inquiries concerning residence for visiting scholars should be directed to the Dean of the Graduate School of Arts and Sciences.

Oak Ridge Institute of Nuclear Studies

Duke University is one of the sponsoring universities of the Oak Ridge Institute of Nuclear Studies located at Oak Ridge, Tennessee. Through this cooperative association with the Institute, the graduate research program has at its disposal all the facilities of the National Laboratories in Oak Ridge and of the research staffs of these laboratories.

Duke Forest

The Duke Forest consists of approximately 7,600 acres of land, most of which is adjacent and easily accessible to the University campus. Situated in the lower Piedmont region and composed of second-growth shortleaf pine, loblolly pine, and hardwoods, the Forest is representative of the various types of timber growth and soils found throughout the region. Through placing the Forest under intensive management for forestry purposes, substantial progress has been made in developing the educational work and research in forestry.

The proximity of the Forest to the laboratories, greenhouses, and library facilities of the University provides an excellent opportunity

for advanced study and research in forestry. Research, particularly in the fields of silvics, forest soils, silviculture, forest management, properties of wood, forest-tree physiology, forest entomology, and forest pathology, is well under way. Several members of the botany and zoology staffs are also engaged in research in the Duke Forest.

Cooperative Programs with the University of North Carolina

INTERCHANGE OF REGISTRATION. Under a plan of co-operation between the greater University of North Carolina and Duke University, students regularly enrolled in the Graduate School of the greater University during the regular academic year, and paying full fees to that institution, may be admitted to a maximum of two courses per semester in the Graduate School of Duke University upon payment of a nominal registration fee of two dollars and of any other special fees regularly required of all students. Under the same arrangements, students in the Graduate School of Duke University may be admitted to course work at the greater University of North Carolina.

LIBRARY EXCHANGE. Students of both the University of North Carolina and Duke University are granted certain library privileges in the respective libraries of each University. Books unavailable in one library may be procured at short notice through an interlibrary loan service.

Research and Publication

The several departments of the University are devoted to research investigation as well as to instruction. Since the University exists for the promotion and diffusion of knowledge, attention is rightly placed, in the Graduate School, on research activities.

In furtherance of the University's obligation to promote and diffuse knowledge, the President annually appoints a University Council on Research, which receives applications from members of the various faculties for subsidies in support of research. Vigorous and forward-looking policies of this Research Council have initiated and encouraged the completion of many substantial and important research projects.

The Duke University Press takes its place as a significant agency in the diffusion of knowledge. Created in 1926, as a successor to the Trinity College Press, the Duke University Press immediately revived the *Hispanic-American Historical Review*, which had been founded and published from 1918 to 1922 by a group of scholars interested in Hispanic America. In 1929 *American Literature* was begun with the cooperation of the American Literature Group of the Modern Lan-

guage Association. This journal was followed in 1931 by *Ecological Monographs*, and in 1932, *Character and Personality* (since 1945 the *Journal of Personality*). In 1935 the Press began the publication of the *Duke Mathematical Journal*; in 1937, the *Journal of Parapsychology*. Since 1948, it has published *Ecology*, the official journal of the Ecological Society of America. The Law School of Duke University publishes *Law and Contemporary Problems*.

The Press, since its organization, has published more than two hundred volumes, and has thus made public the fruits of scholarly research of the Duke faculty and of scholars elsewhere. In the broadest sense, the policy of the Press is to make available to the public any scholarly work that merits publication though special attention is given to works in domains of knowledge cultivated by the University.

Appointments Office

Duke University maintains an active appointments office which has steadily been placing students in teaching and industrial positions. The services of this office are available without charge to graduate students. Those who are interested in securing employment through the Appointments Office, or those who wish to have available for their own use in securing employment a complete file containing their academic record and pertinent recommendations, should register in this office.

Foreign Students

It is the policy of the Graduate School to admit qualified foreign students to course work and in many instances to candidacy for a degree. In making application the student should follow the same procedures as are required of all other graduate students.

The foreign student whose native language is not English must submit, with his application, a statement by a qualified official that the applicant can read, write, speak, and understand English well enough to pursue a program of graduate study. If the applicant is deficient in this respect he must remove his deficiency before he can be accepted in the Graduate School. He must also present a statement certified by a responsible official that his finances are sufficient to maintain him during his stay at Duke University. Unless specific arrangements have been made for a scholarship, the student must pay the regular fees.

Graduate Study in the Summer Session

The Summer Session of Duke University is divided into two terms of six weeks each. In 1955 the first term begins on June 14 and ends on July 23. The second term begins on July 26 and ends on August 31.

Graduate students who wish to work toward advanced degrees in the Summer Session, particularly in chemistry, economics, education, English, history, mathematics, religion, sociology, Spanish, and zoology will find a selection of courses offered by members of the Duke faculty and by visiting professors. Other departments ordinarily offering work leading to the A.M. degree are botany, political science, and psychology. Thesis research for advanced graduate students is available also in other departments, such as botany, forestry, and physics.

Requirements for admission to the Graduate School are detailed above. Students who wish to be admitted to the Graduate School for work in the Summer Session should make application to the Dean of the Graduate School, as well as to the Director of the Summer Session, and should return the completed application, with supporting documents, before June 1, for admission to the first term, and before July 10, for admission to the second term.

REGULATIONS REGARDING SUMMER WORK. (a) No graduate student may register for more than six semester hours of credit in one Summer Session term of six weeks. (b) All of the work required for the A.M., M.A.T., or M.Ed. degree must be completed within six years of the date of beginning. No work completed earlier than this time limit can be accepted either for course or residence credit. (c) Not more than one year of summer work can be accepted toward the residence requirements for the Ph.D. or Ed.D. degrees. See p. 40 for a definition of a year's residence credit earned in Summer Sessions.

A Summer Session Bulletin containing information about graduate courses may be obtained by addressing a request to the DIRECTOR OF THE SUMMER SESSION, Duke University, Durham, N. C.

Courses of Instruction



Most courses listed in this Bulletin are given on the West Campus. The letter (E) following the description means that the course is offered on the East Campus. In general, courses with odd numbers are offered in the first semester, those with even numbers in the second semester. The courses listed under the headnote to the several departments are those planned at the date of printing the Bulletin. Occasional changes may later be necessary.

AESTHETICS, ART, AND MUSIC

PROFESSOR PATRICK, CHAIRMAN; ASSOCIATE PROFESSORS HALL, MARKMAN, AND SUNDERLAND

AESTHETICS

FOR SENIORS AND GRADUATES

No graduate degree is offered in this department, but the following courses are suggested as possible minors for students majoring in history, literature, philosophy, religion, psychology, or sociology, or in any other interested departments.

In 1955-56 the courses planned are Aesthetics 221-222 and Art 215, 216, 233, 234 and 240.

221-222. HISTORY OF AESTHETICS.—Theories of art and beauty in the western world from antiquity to the present. Some attention will be given the developed theories of aesthetics in the Far East. 6 s.h. (E) PROFESSOR PATRICK

ART

FOR SENIORS AND GRADUATES

215. RELIGIOUS ART OF THE ANCIENT NEAR EAST.—A specialized study of the development of art, particularly architecture and sculpture, as the material expression of religious ideas in Egypt, Mesopotamia, and in part of Syria and Palestine, to the Persian conquest. 3 s.h. (w) ASSOCIATE PROFESSOR MARKMAN

216. RELIGIOUS ART OF THE CLASSICAL WORLD.—A specialized study of the religious art, particularly architecture and sculpture, of Greece and Rome, with special emphasis on the monuments in the Near East. 3 s.h. (w)

ASSOCIATE PROFESSOR MARKMAN

217. AEGEAN ART.—A study of the problems of Aegean art as the forerunner of Greek art and in relation to the contemporary civilization of the eastern Mediterranean world. 3 s.h. (w)

ASSOCIATE PROFESSOR MARKMAN

218. EARLY GREEK ART.—A study of the problems of the origin and development of Greek art in the Geometric period to the end of the Archaic. 3 s.h. (w)

ASSOCIATE PROFESSOR MARKMAN

233. EARLY MEDIAEVAL ARCHITECTURE.—The development of religious architecture from the time of Constantine to the end of the First Romanesque style in the third quarter of the eleventh century. 3 s.h. (E)

ASSOCIATE PROFESSOR SUNDERLAND

234. ROMANESQUE SCULPTURE.—The development of sculpture in western Europe from the early Christian period through the culmination of Romanesque art in the west portal of Chartres Cathedral. 3 s.h. (E)

ASSOCIATE PROFESSOR SUNDERLAND

240. ARCHITECTURE OF NORTH AMERICA.—A study illustrating the transplantation of European architectural customs since the sixteenth century; the

time-lag in transit and acceptance of later European developments; the gradual assumption of confident independence in design; and the emergence of international leaders in the United States. 3 s.h. (E) ASSOCIATE PROFESSOR HALL

DIVISION OF ANCIENT LANGUAGES AND LITERATURE

PROFESSORS CLARK, DAVIES, ROGERS, AND STINESPRING; ASSOCIATE PROFESSORS ROSE, TRUESDALE, AND WAY; ASSISTANT PROFESSOR BROWNLEE

GREEK

No graduate degree is presently offered in Greek.

For 1955-56 the course planned is 257.

FOR SENIORS AND GRADUATES

201-202. GREEK TRAGEDY.—6 s.h.

ASSOCIATE PROFESSOR TRUESDALE

257. SOCIAL AND CULTURAL HISTORY OF THE HELLENISTIC WORLD FROM ALEXANDER TO AUGUSTUS.—Lectures, readings, and discussions. This course will not be separately credited without the sequel, Latin 258. 3 s.h.

PROFESSOR ROGERS

Graduate students of Duke University may attend the American School of Classical Studies in Athens, Greece, without charge for tuition, and they are eligible to compete for the fellowships that are offered annually by the School. These consist of two fellowships in Greek archaeology, and one in the language, literature, and history of ancient Greece, each with a stipend of \$2,000. They are awarded mainly on the basis of examinations held in the beginning of February of each year.

LATIN AND ROMAN STUDIES

No graduate degree is presently offered in Latin.

The course planned for 1955-56 is 258.

FOR SENIORS AND GRADUATES

211-212. ROMAN ORATORY.—A survey of the history of Roman oratory, centering about the *Brutus* of Cicero and Tacitus' *Dialogus*. 6 s.h. PROFESSOR ROGERS

258. SOCIAL AND CULTURAL HISTORY OF THE GRAECO-ROMAN WORLD.—The Roman Empire as the trustee of Hellenism and Christianity, and its own original contributions to modern civilization; lectures, readings, and discussions. This course continues Greek 257 and will not be separately credited. 3 s.h.

PROFESSOR ROGERS

SEMITICS

The courses planned for 1955-56 are 201-202, 207-208, 304, 305.

FOR SENIORS AND GRADUATES

201-202. FIRST HEBREW.—The principles and structure of the Hebrew language, with translations of selected Old Testament narratives. 6 s.h.

PROFESSOR STINESPRING

205-206. ELEMENTARY ARABIC.—Introduction to the classical language and literature, with some attention to the modern colloquial idiom. 6 s.h.

PROFESSOR STINESPRING

207-208. SECOND HEBREW.—Samuel or Kings the first semester; Isaiah the second. 6 s.h.

ASSISTANT PROFESSOR BROWNLEE

FOR GRADUATES

304. ARAMAIC.—A study of the Aramaic portions of the Old Testament and selected passages from the Targums, Midrashes, and Talmuds. 3 s.h.

PROFESSOR STINESPRING

305. THIRD HEBREW.—A study of late Hebrew prose, with readings from Chronicles, Ecclesiastes, and the Mishnah. Hours to be arranged. 3 s.h.

PROFESSOR STINESPRING

307. SYRIAC.—A study of the script and grammar, with readings from the Syriac New Testament and other early Christian documents. Some knowledge of Hebrew and Aramaic is prerequisite. 3 s.h. PROFESSOR STINESPRING

309. HISTORY OF THE ANCIENT NEAR EAST.—A survey of the early civilizations of Egypt, Palestine, Syria, and Mesopotamia in the light of Biblical archaeology. 3 s.h. PROFESSOR STINESPRING

RELATED COURSES IN OTHER DEPARTMENTS

Philosophy 217, Religion 217, 218, 220, 313, 316, 318.

Under the terms of a co-operative agreement graduate students of Duke University may, with the approval of the chairman of their major department, take any graduate course offered by the Departments of Greek and Latin of the University of North Carolina by the payment of a nominal fee. A list of these courses will be sent upon request.

BOTANY

PROFESSOR OOSTING, CHAIRMAN—102A BIOLOGY BUILDING; PROFESSOR KRAMER, DIRECTOR OF GRADUATE STUDIES—04 BIOLOGY BUILDING; PROFESSORS HARRAR, AND ANDERSON; ASSOCIATE PROFESSORS BILLINGS, HUMM, NAYLOR, AND PERRY; ASSISTANT PROFESSORS JOHNSON AND PHILPOTT

Graduate work in the Department of Botany is offered leading to the A.M. and Ph.D. degrees. Before undertaking graduate study in botany a student should have had in his undergraduate program at least 12 semester hours of botany beyond an elementary course, and related work in biological sciences. Some work in chemistry and physics will be desirable; and for some phases of botanical study, a necessity. The student's graduate program is planned to provide a broad basic training in the various fields of botany, plus intensive specialization in the field of the research problem.

The courses planned for 1955-56 are 203, 204, 218, 221, 224, 225-226, 254, 255, 257, 258, 305, 359-360, 397-398.

FOR SENIORS AND GRADUATES

202. GENETICS.—The principles of heredity, their cytological basis, and their bearing on other fields of biology. Laboratory work involves experimental breeding of the fruit fly and interpretation of data from the breeding of plants. Offered in alternate years. Prerequisites: one year of botany, zoology, or equivalent, and college algebra. 4 s.h. ASSOCIATE PROFESSOR PERRY

203. PLANT CYTOLOGY.—A study of the structure and organization of plant cells in relation to growth, reproduction, and especially heredity. Offered in alternate years. Prerequisite: one year of botany. 4 s.h. PROFESSOR ANDERSON

204. ADVANCED PLANT ANATOMY.—A study of vegetative and reproductive tissue of vascular plants including selection and preparation of fresh plant materials. An analysis of some of the significant literature bearing upon function, development, and phylogeny. Prerequisite: Botany 55 or equivalent. 4 s.h. (E)

ASSISTANT PROFESSOR PHILPOTT

216. BOTANICAL MICROTECHNIQUE.—Methods and theory in preparation of plant tissues for temporary mounts and permanent microscopical slides. Prerequisite: Two years of natural science. 4 s.h. (E) ASSISTANT PROFESSOR PHILPOTT

218. ILLUSTRATIVE TECHNIQUES.—A study of botanical illustrative methods, including theory and use of the microscope, microscopical measurements, drawing, photomicrography, botanical photography, darkroom procedures, lantern slides, and the preparation of illustrative material for publication. Prerequisites: two semesters of botany, zoology or forestry. 2 s.h. PROFESSOR ANDERSON

221. INTRODUCTORY MYCOLOGY.—Field and laboratory study of the vegetative and reproductive structures of the fungi and slime molds. Methods of collection, isolation, propagation, and identification of the major orders as represented in the local flora. Prerequisite: A year of biological science. 4 s.h.

ASSISTANT PROFESSOR JOHNSON

225-226. SPECIAL PROBLEMS.—Students with adequate training may do special work in the following fields. Credits to be arranged.

- (a) MYCOLOGY AND PLANT PATHOLOGY. ASSISTANT PROFESSOR JOHNSON
- (b) CYTOLOGY. ASSOCIATE PROFESSOR ANDERSON
- (c) ECOLOGY. PROFESSOR OOSTING AND ASSOCIATE PROFESSOR BILLINGS
- (d) GENETICS. ASSOCIATE PROFESSOR PERRY
- (e) MORPHOLOGY AND ANATOMY OF HIGHER PLANTS.
PROFESSOR HARRAR; ASSISTANT PROFESSOR PHILPOTT
- (f) MORPHOLOGY AND TAXONOMY OF LOWER GROUPS.
PROFESSORS BLOMQUIST AND ANDERSON
- (g) PHYSIOLOGY. PROFESSOR KRAMER AND ASSOCIATE PROFESSOR NAYLOR
- (i) TAXONOMY OF HIGHER GROUPS. PROFESSOR BLOMQUIST
- (m) MICROBIOLOGY. ASSOCIATE PROFESSOR HUMM

252. ADVANCED PLANT PHYSIOLOGY.—The physicochemical processes and conditions underlying the physiological processes of plants. Prerequisite: Botany 151 or equivalent; organic chemistry recommended. 3 s.h.

ASSOCIATE PROFESSOR NAYLOR

254. PLANT WATER RELATIONS.—A study of factors affecting the availability of water, its absorption and use in plants, and the effects of water deficits on plant processes. Assigned readings, reports, and lectures. Prerequisite: Botany 151 or equivalent. 3 s.h.

PROFESSOR KRAMER

255. ADVANCED TAXONOMY.—A study of the historical background of plant taxonomy, modern concepts and systems of classifications, nomenclatorial problems, and the taxonomy of specialized groups. Prerequisite: two years of botany, including Botany 52 or equivalent. 4 s.h.

PROFESSOR BLOMQUIST

256. COMMUNITY ANALYSIS AND CLASSIFICATION.—The development of concepts and methods in synecology and their present application to the study of plant communities. Prerequisite: Botany 156 or equivalent. 3 s.h.

PROFESSOR OOSTING

257. PRINCIPLES OF PLANT DISTRIBUTION.—Interpretation of the floristic and ecological plant geography of the world's vegetation. Prerequisite: Botany 156 or equivalent. 3 s.h.

ASSOCIATE PROFESSOR BILLINGS

258. PHYSIOLOGY OF GROWTH AND DEVELOPMENT.—Consideration of the internal factors and processes of new protoplasm and its differentiation at the cellular, tissue, and organ level in plants. Prerequisites: Botany 151 or equivalent; organic chemistry recommended. 3 s.h.

ASSOCIATE PROFESSOR NAYLOR

259. ENVIRONMENTAL MEASUREMENTS.—Methods of obtaining and evaluating climatological data for ecological purposes with special attention to instrumentation and microclimate. Prerequisite: Botany 156 or equivalent. 3 s.h.

ASSOCIATE PROFESSOR BILLINGS

305. VEGETATION OF NORTH AMERICA.—Distribution and limits of the major plant communities, a study in ecological plant geography. Prerequisite: Botany 156 or equivalent. 3 s.h.

PROFESSOR OOSTING

310. STRUCTURE AND CLASSIFICATION OF BRYOPHYTES AND PTERIDOPHYTES.—The morphological and systematic characteristics of mosses, liverworts, ferns, and fern allies. 4 s.h.

PROFESSOR BLOMQUIST

311. STRUCTURE AND CLASSIFICATION OF ALGAE.—The morphological and ecological characteristics of the common freshwater and marine species and the principles underlying their classification. Collecting, identification, and the making of permanent microscopical preparations. 4 s.h.

PROFESSOR BLOMQUIST

341. METHODS IN PLANT PHYSIOLOGY.—The theory and use of apparatus and methods in physiological research. 3 s.h.

PROFESSOR KRAMER AND ASSOCIATE PROFESSOR NAYLOR

359-360. RESEARCH IN BOTANY.—Individual investigation in the various fields of botany. Credits to be arranged.

PROFESSORS ANDERSON, BLUMQUIST, HARRAR, KRAMER, OOSTING;
ASSOCIATE PROFESSORS BILLINGS, HUMM, NAYLOR, AND PERRY;
ASSISTANT PROFESSORS JOHNSON AND PHILPOTT

397-398. GENERAL BOTANICAL SEMINAR.—One hour per week throughout the year. Required of all graduates majoring in botany. 2 s.h.

PROFESSORS ANDERSON, BLUMQUIST, HARRAR, KRAMER, OOSTING;
ASSOCIATE PROFESSORS BILLINGS, HUMM, NAYLOR, AND PERRY;
ASSISTANT PROFESSORS JOHNSON AND PHILPOTT

FOREST BOTANY

FOR SENIORS AND GRADUATES

224. FOREST PATHOLOGY.—Infectious and non-infectious diseases of forest trees, and related deterioration of forest products. Field and laboratory study of symptoms, etiology, and control. Prerequisites: Botany 1 and 2. 3 s.h.

ASSISTANT PROFESSOR JOHNSON

253. DENDROLOGY.—Nomenclature, classification, and identification of woody plants with special reference to species indigenous to southeastern United States and other important forest regions of temperate North America. Laboratory and field work. Prerequisite: one year of botany. 3 s.h.

PROFESSOR HARRAR

RELATED COURSES IN OTHER DEPARTMENTS

This related course may be counted toward a major in botany: Forestry 257.

CHEMISTRY

PROFESSOR SAYLOR, CHAIRMAN—115 CHEMISTRY BUILDING, ASSOCIATE PROFESSOR BRADSHAW, DIRECTOR OF GRADUATE STUDIES—124 CHEMISTRY BUILDING; PROFESSORS BIGELOW, GLOCKLER (VISITING LECTURER), GROSS, HAUSER, HILL, HOBBS, AND VOSBURGH; ASSOCIATE PROFESSOR BROWN; ASSISTANT PROFESSORS KRIGBAUM, STROBEL, AND WILDER

In the Department of Chemistry graduate work is offered leading to the A.M. and Ph.D. degrees. Before undertaking a graduate program in chemistry, a student should have taken an undergraduate major in chemistry along with related work in mathematics and physics.

Graduate courses in the department are designed to provide a broad basic training in the fields of inorganic, organic, analytical, and physical chemistry. An important requirement for the Ph.D. degree is the successful completion, under the direction of a member of the Staff, of a research program leading to the solution of an original problem. The choice of the research problem, for either the A.M. or the Ph.D. degrees, will determine the field of advanced specialization.

For 1955-56 the courses planned are 206, 215, 233, 234, 251, 252, 261-262, 271, 275-276, 303, 341-342, 350, 351-352, 360, 363-364, 365-366, and 373-374.

FOR SENIORS AND GRADUATES

206. ELEMENTS OF THEORETICAL CHEMISTRY.—A course in the general principles of physical chemistry for students who do not present credit in calculus. Credit is not given for both 206 and 261-262. Three recitations and three laboratory hours. Prerequisites: Chemistry 70, 151-152, Physics 51-52 or 1-2 and Mathematics. 6 s.h. With the permission of the Director of Graduate Studies, graduate students from other departments may offer other advanced science courses in place of some of these prerequisites. 4 s.h.

PROFESSORS SAYLOR AND HOBBS

215. ADVANCED INORGANIC CHEMISTRY.—A study of modern theories of valence and molecular structure; also of inorganic compounds, particularly the less common types, illustrated by suitable laboratory preparations. Prerequisites: Chemistry 261-262, or 206. 1, 3, or 4 s.h.

PROFESSORS VOSBURGH AND HILL

216. NUCLEAR CHEMISTRY.—Types and elementary theory of nuclear reactions and the considerations involved in the use of tracers in chemical studies. Prerequisite: Chemistry 261-262; 262 may be taken concurrently. 1 s.h. PROFESSOR HILL

233. INSTRUMENTAL ANALYSIS.—Experiments in the use of physical measuring instruments in chemical analysis with special attention to optical instruments. One lecture and three laboratory hours per week. Prerequisites: Chemistry 70 and one year of physics. 2 s.h.
ASSISTANT PROFESSOR STROBEL; PROFESSORS
SAYLOR AND VOSBURGH

234. PHYSICO-CHEMICAL METHODS OF ANALYSIS.—Discussion of physico-chemical principles as applied to methods of instrumental analysis, illustrated by laboratory experiments, with emphasis on methods involving electrical techniques. One lecture and three laboratory hours per week. Prerequisites: Chemistry 70 and either 261-262 or 206; either of the latter may be taken concurrently. 2 s.h.
ASSISTANT PROFESSOR STROBEL; PROFESSORS
SAYLOR AND VOSBURGH

251. QUALITATIVE ORGANIC ANALYSIS.—Systematic identification of organic compounds, including a study of solubilities and classification reactions. One lecture and three or six laboratory hours per week. Prerequisites: Chemistry 70 and 151-152. 2 or 3 s.h.
PROFESSOR HAUSER

252. ADVANCED ORGANIC PREPARATIONS.—A laboratory course designed to supplement the student's knowledge of fundamental organic processes by a selected group of laboratory exercises accompanied by oral discussions of techniques and theories pertinent to the experiments. Five hours laboratory and lecture, with lectures in alternate weeks. Prerequisites: Chemistry 70 and 151-152. 2 s.h.
ASSOCIATE PROFESSOR BROWN AND PROFESSOR BIGELOW

261-262. PHYSICAL CHEMISTRY.—Fundamentals of general theoretical chemistry illustrated by selected laboratory experiments. Two recitations and three laboratory hours. Prerequisites: Chemistry 70, 151-152, Physics 51-52 or 1-2 and Mathematics 51-52 or equivalent. 6 s.h.
PROFESSORS HOBBS AND SAYLOR

271. INTRODUCTION TO RESEARCH.—Lectures on the use of chemical literature, research methods, recording and publication of results, and other topics. One lecture per week. 1 s.h.
ASSOCIATE PROFESSOR BROWN

275-276. RESEARCH.—The aim of this course is to give instruction in methods used in the investigation of original problems. Individual work and conferences. 2 to 6 s.h.
PROFESSORS BIGELOW, GROSS, HAUSER, HILL, HOBBS, SAYLOR,
AND VOSBURGH; ASSOCIATE PROFESSORS BRADSHAW AND BROWN;
ASSISTANT PROFESSORS KRIGBAUM, STROBEL, AND WILDER

FOR GRADUATES

303. THERMODYNAMICS.—Fundamental laws of thermodynamics and their applications to chemistry and physics. 3 s.h.
PROFESSORS SAYLOR AND VOSBURGH

304. PHYSICAL CHEMISTRY OF REACTIONS.—The theoretical aspects of reaction kinetics, chemical equilibrium, atomic and molecular forces, and the relation of these to chemical reactions are considered. Prerequisite: Chemistry 261-262. 3 s.h.
PROFESSORS HILL AND HOBBS

336. THEORY OF ANALYTICAL CHEMISTRY.—A study of such topics as precipitation and errors, theories of precipitation and titration, oxidation and reduction, and others, illustrated by typical analytical methods. One lecture per week. Prerequisite: Chemistry 261-262. 1 s.h.
PROFESSOR VOSBURGH

341-342. ADVANCED ORGANIC CHEMISTRY.—Discussion of the theories of organic chemistry with special reference in the first semester to the mechanism of reactions and in the second semester to the synthesis of some of the more complex compounds such as vitamins, hormones, and alkaloids. Undergraduates are admitted to this course only by permission of the Director of Undergraduate Studies. Prerequisite: Chemistry 151-152. 4 s.h.
PROFESSORS BIGELOW AND HAUSER

350. ORGANIC REACTIONS.—A study of the scope and limitations of the more important types of reactions of organic chemistry from the point of view of their practical use in the synthesis of organic compounds. Lectures and discussion. Prerequisites: Chemistry 251 and 341. 2 s.h. ASSOCIATE PROFESSOR BRADSHER

351-352. ADVANCED SYNTHETIC ORGANIC CHEMISTRY.—Recent advances in certain selected fields, such as the mechanism of organic reactions, medicinals, dyes, perfumes, terpenes, and alkaloids, will be discussed. The emphasis will be placed on structure studies and synthetic methods. Lecture or seminar one hour each week. 2 s.h. PROFESSORS BIGELOW AND HAUSER

360. POLYMER CHEMISTRY.—A survey of the methods of preparation of high-molecular-weight organic compounds and a study of the properties characteristic of macro-molecules in solution and in the solid state. Prerequisite: Chemistry 303. 2 s.h. ASSISTANT PROFESSOR KRIGBAUM

363-364. SPECIAL TOPICS IN PHYSICAL AND INORGANIC CHEMISTRY.—Various topics in physical and inorganic chemistry which are of special interest to the staff or students are considered, such as absorption and scattering of light, dielectric phenomena, electrode processes, electrolyte theory, ion exchange, molecular structure, solubility, and valence theory. Prerequisites: Chemistry 261-262, 303 and 304. 4 s.h. PROFESSORS GLOCKLER, GROSS, HILL, HOBBS, SAYLOR AND VOSBURGH, AND ASSISTANT PROFESSOR STROBEL

365-366. CHEMICAL PHYSICS, STATISTICAL THEORY.—General introduction to statistical mechanics and applications to chemical problems; solution theory, reaction velocity, changes of state, quantum statistics and the metallic state. Lectures, conferences, and assigned problems. 6 s.h.

367-368. CHEMICAL PHYSICS, QUANTUM THEORY OF ATOMIC AND MOLECULAR STRUCTURE.—Theory of atomic and molecular forces and the structure of matter. Lectures, conferences, and assigned problems. 6 s.h.

373-374. SEMINAR.—Required of all graduate students in chemistry. One hour a week discussion. 2 s.h.

PROFESSORS BIGELOW, GROSS, HAUSER, HILL, HOBBS, SAYLOR, AND VOSBURGH; ASSOCIATE PROFESSORS BRADSHER AND BROWN; ASSISTANT PROFESSORS KRIGBAUM, STROBEL, AND WILDER

RELATED COURSES IN OTHER DEPARTMENTS

Biochemistry and Nutrition M241, M242, M341, M343-344, M349-350, M351; and Microbiology M322.

ECONOMICS

PROFESSOR HOOVER, CHAIRMAN—320 LIBRARY; PROFESSOR SPENGLER, DIRECTOR OF GRADUATE STUDIES—322 LIBRARY; PROFESSORS BLACK, DE VYVER, HANNA, HUMPHREY, LANDON, RATCHFORD, SIMMONS, SMITH, AND VON BECKERATH; ASSOCIATE PROFESSOR MCKENZIE; ASSISTANT PROFESSORS CARTTER AND DEWEY

Graduate work in the Department of Economics is offered leading to the A.M. and Ph.D. degrees. In order to enter upon graduate work in economics a student should have completed with satisfactory grades at least 12 semester hours of undergraduate work in economics, including 6 hours of Principles of Economics. Among the undergraduate courses of distinct advantage to the graduate student specializing in economics are: General Accounting, Elementary Statistics, and basic courses in philosophy, psychology, the social sciences other than economics, and mathematics.

The fields from among which students working toward a Ph.D. degree in economics may choose for purposes of concentration are: Economic Theory, History of Economic Thought, Trade Cycle and Income and Employment Theory, Demographic and Economic Growth and Change, Economic History, Economic Systems, Industrial and Organizational Economics, International Trade, Labor Economics, Mathematical and Econometrical Economics, Money and Banking, and Public Finance. The requirements for the Ph.D. degree in economics normally include (among other things) completion of the work (or its equivalent) making up the first three of these fields, together with two additional fields; a course or its equivalent.

lent in each of most of the remaining fields; adequate knowledge of statistics; and three or four courses in a minor field. When circumstances warrant, these requirements are subject to some modification.

For 1955-56 the following courses are planned for graduate students in economics and related fields: 200, 241, 244, 305, 311, 312, 313, 314, 319, 320, 329, 358, 365, 386, and the Public Control of Business Seminar. For 1956-57 the following courses are planned: 200, 237, 238, 240, 241, 243, 304, 313, 314, 315, 316, 317, 320, 330, 331, 335, 365, and the Public Control of Business Seminar.

FOR SENIORS AND GRADUATES*

233. STATE AND LOCAL FINANCE.—A study of expenditures, taxation, and financial administration in state and local governments with emphasis on current problems. Special attention will be given to research methods and materials and to the financial relations between state and local governments. 3 s.h.

PROFESSOR RATCHFORD

237-238. STATISTICAL METHODS.—A study of statistical methods appropriate for dealing with problems in business and the social sciences. In addition to developing more thoroughly the subjects considered in *Business Statistics*, the following methods will be considered: multiple, partial, and curvilinear correlation; curve fitting; probability; sampling distributions; and statistical inference. Prerequisite: Economics 138 or consent of the instructor. Either semester may be taken for credit. 6 s.h.

PROFESSOR HANNA

240. NATIONAL INCOME.—A critical survey of the conceptual framework and structure of national income and its components, the reliability of national income estimates, and their use in analyzing questions of economic policy. 3 s.h.

PROFESSOR HANNA

256. LABOR LEGISLATION AND SOCIAL INSURANCE.—A study of the relations of the state to labor problems with special reference to remedial legislation, to interference in labor disputes, and to social insurance. 3 s.h.

PROFESSOR DE VYVER

262. TRADE UNIONISM AND COLLECTIVE BARGAINING.—An intensive survey of the trade union as an economic institution is followed by a study of the principles and problems of union-management relationship as found in collective bargaining. 3 s.h.

PROFESSOR DE VYVER

275-276. ADVANCED INDUSTRIAL ACCOUNTING AND MANAGEMENT.—A comprehensive examination of the rationale and techniques of control methods used in industry. Emphasis is laid on a critical evaluation of the practices followed by job-order, process, and standard costing, as well as the economics of overhead costs. Prerequisites: Economics 171-172 and permission of the Department. 6 s.h.

PROFESSOR BLACK

FOR GRADUATES

200. INTRODUCTORY MATHEMATICAL ECONOMICS.—This course is designed to acquaint the student with the role and the use of mathematical and related methods in economic analysis. 3 s.h.

ASSOCIATE PROFESSOR MCKENZIE

241. ECONOMIC ANALYSIS.—Review of contemporary theory relating to consumer behavior, production, the firm, price formation, income distribution, and equilibrium. 3 s.h.

PROFESSOR SPENGLER

243. MATHEMATICAL ECONOMICS.—A systematic survey of mathematical economic theory. The principal topics are conditions of static equilibrium, including stability conditions, dynamic models using difference equations, and linear production models of input-output analysis and activity analysis. 3 s.h.

ASSOCIATE PROFESSOR MCKENZIE

244. INTRODUCTION TO ECONOMETRICS.—The theory of statistical model building in economics. The identifiability of parameters in a system of linear dif-

* Graduate students in economics normally will not receive credit for courses 233, 256, and 262. These courses may be taken for credit by non-economics graduate students, with the consent of the instructor.

ference equations. The statistical estimation of parameters. The design of dynamic economic models. 3 s.h.

ASSOCIATE PROFESSOR MCKENZIE

304, 305. SEMINAR IN MONEY AND BANKING.—3 s.h. each.

PROFESSOR SIMMONS

311-312. HISTORY OF POLITICAL ECONOMY.—A detailed review of the development of economic theory, the tools of economic analysis, and economics as a science, together with an analysis of the circumstances affecting this development. Period covered: pre-Christian times through 1936. 6 s.h.

PROFESSOR SPENGLER

313-314. SEMINAR IN ECONOMIC THEORY.—The course consists of directed research in economic theory. The primary purpose is the correction of authoritative eclecticism and its replacement by individually integrated theory. Prerequisite: Economics 241 or its equivalent. 6 s.h.

PROFESSOR HOOVER

315. SEMINAR IN ECONOMIC SYSTEMS.—3 s.h.

PROFESSOR HOOVER

316. SEMINAR IN ECONOMIC FUNCTIONS OF THE STATE.—3 s.h.

PROFESSOR HOOVER

317. SEMINAR IN DEMOGRAPHIC, POPULATION, AND RESOURCE PROBLEMS.—3 s.h.

PROFESSOR SPENGLER

318. GENERAL SEMINAR IN ECONOMICS.—All graduate students with economics as a major subject are members of this seminar. Reports of progress in research will be made, and there will be lectures and critical discussion by members of the Department. Year course. No credit.

ALL MEMBERS OF THE GRADUATE STAFF

319. SEMINAR IN THE THEORY AND THE PROBLEMS OF ECONOMIC GROWTH AND CHANGE.—3 s.h.

PROFESSOR SPENGLER

320. SEMINAR IN TRADE CYCLE, EMPLOYMENT, AND INCOME THEORY.—3 s.h.

ASSISTANT PROFESSOR CARTIER

329. FEDERAL FINANCE.—A study of the expenditures, revenues, and financial administration of the government of the United States, with emphasis on current problems. Special attention given to budgetary procedure, corporate and individual income taxes, and the financial relations between federal and state governments. Prerequisite: Economics 187 or consent of instructor. 3 s.h.

PROFESSOR RATCHFORD

330. SEMINAR IN PUBLIC FINANCE.—3 s.h.

PROFESSOR RATCHFORD

331. SEMINAR IN ECONOMIC HISTORY.—3 s.h.

PROFESSOR SMITH

355. SEMINAR IN LABOR ECONOMICS.—3 s.h.

PROFESSOR DE VYVER

358. SEMINAR IN LABOR MARKET AND RELATED ANALYSIS.—3 s.h.

ASSISTANT PROFESSOR CARTIER

365. SEMINAR IN INTERNATIONAL TRADE.—3 s.h.

PROFESSOR HUMPHREY

386. SEMINAR IN LATIN-AMERICAN ECONOMIC PROBLEMS.—3 s.h.

PROFESSOR SMITH

389. SEMINAR IN INDUSTRIAL AND GOVERNMENTAL PROBLEMS.—3 s.h.

RELATED COURSES IN OTHER DEPARTMENTS

The following course carries either economics or political science credit for economics majors:

POLITICAL SCIENCE 341. SEMINAR IN PUBLIC ADMINISTRATION.—3 s.h.

PROFESSOR CONNERY AND ASSISTANT PROFESSOR DEWEY

The following course, included in the curriculum of the School of Law, carries economics credit for economics majors:

PUBLIC CONTROL OF BUSINESS SEMINAR.—Intensive study of the Federal anti-trust laws and their common-law background, with emphasis on the economic policies involved. 3 s.h.

PROFESSOR LIVENGOOD AND ASSISTANT PROFESSOR DEWEY

Courses comprising a candidate's minor may be selected from fields of forestry, history, mathematics, philosophy, political science, psychology, and sociology and anthropology, or from an area that complements the candidate's area of research interests in economics.

EDUCATION

PROFESSOR CARTWRIGHT, CHAIRMAN—1c2 WEST DUKE BUILDING; PROFESSOR BOLMEIER, DIRECTOR OF GRADUATE STUDIES—1c1 WEST DUKE BUILDING; PROFESSORS CARR AND CHILDS; ASSOCIATE PROFESSORS EASLEY, MCLENDON, RUDISILL, STUMPF, AND WEITZ; ASSISTANT PROFESSORS COLVER, PETTY AND REYNOLDS

Graduate work in Education is offered leading to the A.M., the M.Ed., the M.A.T., the Ph.D. and the Ed.D. degrees. For each of these degrees there are specific requirements and prerequisites, all of which may be found stated in detail in this *Bulletin*, pp. 34-43. Departmental requirements and prerequisites for all of these degrees may be obtained from the Director of Graduate Studies. The courses planned for 1955-56 are: 201, 203, 204, 205, 210, 217, 224, 225, 226, 234, 235, 240, 241, 242, 243, 244, 246, 248, 267, 276, 334-335.

FOR SENIORS AND GRADUATES

201. TEACHING AND SUPERVISION OF ARITHMETIC.—This course gives special attention to the number system, the fundamental operations (with whole numbers, fractions, and decimals), percentage, and measurements. The course will consider the meaning theory, method of teaching, problem solving, evaluation, practice and drill, and selection and gradation of arithmetical contents. The course is designed for teachers and supervisors in the elementary school. 3 s.h. (E)

ASSISTANT PROFESSOR PETTY

203. PRINCIPLES OF SCHOOL ADMINISTRATION.—The fundamental facts and procedures of school administration, an analysis of the problems and policies of the organization and direction of a local school system, and the functions of the various school officials. Prerequisites: Education 103 and 88, or six semester hours of equivalent work in education. 3 s.h. (E)

PROFESSOR BOLMEIER AND ASSOCIATE
PROFESSOR STUMPF

205. CURRICULUM PROBLEMS IN SECONDARY EDUCATION.—A consideration of the aims and objectives of secondary-school subjects, emphasizing practical problems of curriculum-making in the high school. 3 s.h. (E)

PROFESSOR CHILDS

213. PROBLEMS IN THE ORGANIZATION AND ADMINISTRATION OF THE ELEMENTARY SCHOOL.—A study of the work of the elementary-school principal. 3 s.h. (E)

216. PSYCHOLOGICAL PRINCIPLES OF SECONDARY EDUCATION.—A study of adolescence and the psychology of learning as applied to teaching the principal high-school subjects. 3 s.h. (E)

PROFESSOR CHILDS

224. TEACHING THE SOCIAL STUDIES IN ELEMENTARY SCHOOLS.—This course will treat objectives, curriculum trends, methods, and materials in elementary-school social studies. Topics to receive emphasis include unit-planning, use of the textbook, the reading program, using community resources, audio-visual materials, dealing with controversial issues, teaching time and place concepts, and evaluation. Opportunity will be provided for teachers to work on their own school problems in the social studies. 3 s.h. (E)

PROFESSOR CARTWRIGHT

225. THE TEACHING OF HISTORY AND THE SOCIAL STUDIES.—Evaluation of the objectives, content, materials, and methods in the teaching of history and the social studies. 3 s.h. (E)

PROFESSOR CARTWRIGHT

226. TEACHING READING IN THE ELEMENTARY SCHOOL.—A study of the nature of the reading process and of principles, methods, and materials for the development of effective reading attitudes and skills as applied both to developmental and remedial programs. 3 s.h. (E)

ASSOCIATE PROFESSOR RUDISILL

227. THE PSYCHOLOGY OF LEARNING: PROBLEMS.—The major problems related to the learning process will be examined, with the experimental literature bearing on them. The curves of learning and forgetting, the distribution of practice, economical methods of learning, and the transfer of training will be the major topics considered. 3 s.h. (E)
ASSOCIATE PROFESSOR EASLEY

228. IMPROVEMENT OF INSTRUCTION IN THE SOCIAL STUDIES. An advanced treatment of curriculum, methods, and materials in the Social Studies. Individuals will concentrate on subjects and grade levels of their choice. 3 s.h. (E)
ASSOCIATE PROFESSOR MCLENDON

232. SUPERVISION OF INSTRUCTION.—A survey of supervision as a means of improving instruction and adapting the curriculum to the learner and to community needs. 3 s.h. (E) PROFESSOR CARR AND ASSOCIATE PROFESSOR MCLENDON

234. SECONDARY-SCHOOL ORGANIZATION AND ADMINISTRATION.—This course is designed especially for principals, teachers, and other prospective members of the secondary-school staff. The scope of secondary education is considered to encompass junior high school, regular high school, senior high, and junior college. Special treatment is given to the problems of internal organization and management. 3 s.h. (E)
PROFESSOR BOLMEIER

236. TEACHING READING IN THE SECONDARY SCHOOL.—A study of the nature of the reading process and of principles, methods, and materials for the development of effective reading attitudes and skills as applied both to developmental and remedial programs. The course provides practice with secondary-school children suffering reading retardation, including testing, diagnosis, and daily remedial teaching during the six-week period. For secondary-school teachers of all subjects who wish to improve the reading and study habits of their students. 3 s.h. (E)
ASSOCIATE PROFESSOR RUDISILL

240. EDUCATIONAL AND OCCUPATIONAL INFORMATION.—A study of the sources of occupational and educational information: methods of securing and organizing occupational information; methods of providing vocational and educational information to students through career days, college conferences, class activities, and individual counseling; methods of making job analyses and community occupational surveys. 3 s.h.
ASSISTANT PROFESSOR COLVER

241. PRINCIPLES OF GUIDANCE.—An historical survey of the philosophies of guidance; a study of the interrelationships between instruction, administration, and guidance in education. Prerequisite: 6 hours of psychology or educational psychology. 3 s.h.
ASSISTANT PROFESSOR COLVER

242. MEASUREMENT OF APTITUDES, INTEREST, AND ACHIEVEMENT.—A study of the theories and principles of psychological measurement as applied to aptitude, interest, and achievement testing. Prerequisite: 12 hours of psychology or educational psychology (6 hours of which may be taken concurrently). 3 s.h. (E)
PROFESSOR KUDER

243. PERSONALITY DYNAMICS.—A study of personality structure and dynamics with emphasis upon the implications for counseling and instruction. Prerequisite: 6 hours of psychology or educational psychology. 3 s.h.
ASSOCIATE PROFESSOR WEITZ

244. COUNSELING TECHNIQUES.—A study of individual counseling techniques including diagnosis, interviewing, program planning, and counseling evaluation. Prerequisite: Education 242 and 243 or equivalent, which may be taken concurrently. 3 s.h.
ASSOCIATE PROFESSOR WEITZ

246. THE TEACHING OF MATHEMATICS.—This course deals with such topics as aims, curriculum, course and lesson planning, and classroom procedure for teaching secondary-school mathematics. 3 s.h. (E) ASSISTANT PROFESSOR REYNOLDS

248. PRACTICUM IN COUNSELING.—Practice in individual counseling, including test administration, intake interviewing, diagnosis, counseling, program planning, report preparation, and evaluation. The student will be expected to

devote about 150 hours to case work and conferences with his supervisor. Prerequisite: Education 244. 3 s.h. ASSOCIATE PROFESSOR WEITZ

253. SCHOOL LAW.—The primary purpose of this course is to familiarize prospective school administrators and teachers with the legal features of school organization and administration. Although some attention is given to constitutional and statutory provisions, the main emphasis is upon court decisions relating to education. Students are expected to select appropriate problems in school law for intensive study. 3 s.h. (E) PROFESSOR BOLMEIER

258. EDUCATIONAL MEASUREMENTS.—A critical study of the principles and techniques involved in measurement in education, with opportunity for individual research. Prerequisite: twelve semester hours in the Department, including a course in educational psychology. 3 s.h. (E) ASSOCIATE PROFESSOR WEITZ

267. THE TEACHING OF SCIENCE IN THE ELEMENTARY SCHOOL.—This course deals with such topics as aims and values, curriculum materials, classroom and laboratory procedures, field trips, lesson planning, and grade placement for science teaching in the elementary school. 3 s.h. (E) ASSISTANT PROFESSOR REYNOLDS

276. THE TEACHING OF HIGH-SCHOOL SCIENCE.—Discussion, lectures and collateral reading, related to such topics as aims, tests, curriculum, classroom and laboratory procedure, field trips, course and lesson planning for secondary-school science. 3 s.h. (E) ASSISTANT PROFESSOR REYNOLDS

290. ADMINISTRATION OF SCHOOL PROPERTY.—Planning and management of the school plant and its equipment to meet instructional, health, and community needs for immediate and long-range purposes. This course is intended especially for teachers and principals as well as for superintendents. Areas to be treated will include site selection; trends in design, lighting, ventilation, and heating; custodial service and maintenance; and financing. 3 s.h. (E) ASSOCIATE PROFESSOR STUMPF

FOR GRADUATES

204. THE SCHOOL AS AN INSTITUTION.—Consideration is given to the place of the school in the American social order, and its adaptation to social, economic, and political changes. Special attention is directed to the responsibility (1) of the school for seeking solutions to the perplexing problems of youth created by a changing society; and (2) of the government for providing greater equality of educational opportunities. One of the required courses for the M.Ed. degree without thesis. Open to graduate students only. 3 s.h. (E) PROFESSOR BOLMEIER AND ASSOCIATE PROFESSOR MCLENDON

210. INTRODUCTION TO EDUCATIONAL RESEARCH.—The general purpose of this course is to give the student an overview of research, acquaint him with the nature of research processes, and develop within him an appreciation of the essential characteristics of good research work. The course is one of the four basic courses required for the Master of Education degree without thesis and is designed to be liberalizing as well as technical. Open to graduate students only. 3 s.h. (E) ASSOCIATE PROFESSOR STUMPF

217. THE PSYCHOLOGICAL PRINCIPLES OF EDUCATION.—An advanced study of teaching, learning, and the learner. This is one of the courses required for the Master of Education degree without thesis. Selected problems guiding the reading of students will be discussed in class. Open to graduate students only. 3 s.h. (E) ASSOCIATE PROFESSORS EASLEY AND WEITZ

235. THE NATURE, FUNCTION, AND REORGANIZATION OF THE CURRICULUM.—One of the required courses for the Master of Education degree without thesis. Selected problems guiding the reading of students. Open to graduate students only. 3 s.h. (E) PROFESSORS CARR AND CARTWRIGHT

323. PUBLIC SCHOOL FINANCE.—A study of educational costs, sources of revenue for the support of public education, collection of revenue, basis of distribution, and accounting for funds spent. 3 s.h. (E) ASSOCIATE PROFESSOR STUMPF

334-335. SEMINAR IN SCHOOL ADMINISTRATION.—Research, field observation, and reports on significant problems in educational administration. The work will be designed to integrate knowledge and skill in such areas as personnel, finance, property, law, curriculum, and public relations. 6 s.h. each semester. (E)

PROFESSORS BOLMEIER, CARTWRIGHT; ASSOCIATE PROFESSOR STUMPF; ASSISTANT PROFESSOR PETTY

ENGLISH

PROFESSOR WARD, CHAIRMAN—325 ALLEN; PROFESSOR BAUM, DIRECTOR OF GRADUATE STUDIES—402 LIBRARY; PROFESSORS BOYCE, BRINKLEY, GILBERT, GOHDES, IRVING, TURNER, AND VISITING LECTURER WOODRESS

The department offers graduate work leading to the A.M. and Ph.D. degrees. Students intending to major in English should have taken enough undergraduate courses in literature to enable them to pursue graduate studies profitably. To satisfy the requirements for the A.M. degree a student must (a) elect 203-204 (3 or 6 semester hours); and 21 (or 18) additional semester hours; and (b) write a thesis. A statement of the requirements for the Ph.D. degree may be obtained from the Director of Graduate Studies.

In 1955-56 the courses offered are 203, 204, 215, 216, 219, 220, 223, 224, 229, 230, 233, 234, 251, 252, 270, 349, 350 *b, cd*, and *e*.

FOR SENIORS AND GRADUATES

201, 202. ANGLO-SAXON.—In the first semester, an introduction to the language, with the reading of selected prose and of some of the shorter poems; in the second semester, the *Beowulf*. 6 s.h.

PROFESSOR BAUM

203, 204. CHAUCER.—Reading and interpretation of the text; in the first semester, the principal *Canterbury Tales*; in the second, the *Troilus* and the minor poems. A reading report and a term paper. 6 s.h.

PROFESSOR BAUM

205, 206. MIDDLE ENGLISH.—Close study of selected texts, with attention to the development of the language and to the history of the literature from 1200 to 1400. A term paper each semester. 6 s.h.

PROFESSOR BAUM

215, 216. ELIZABETHAN DRAMA.—Careful study of one or two major dramatists (Jonson or Beaumont and Fletcher) and extensive reading in the other writers (Heywood, Ford, Massinger, Marlowe, Middleton) with emphasis on the nature and qualities of their work in relation to its historical background. Exposition of plays, reports, and a term paper each semester. 6 s.h.

PROFESSOR GILBERT

217. MILTON.—Milton's poetry and prose, with emphasis on the major poems. 3 s.h.

PROFESSOR GILBERT

218. SPENSER.—The reading of Spenser's work, with chief attention to *The Faerie Queene*. 3 s.h.

PROFESSOR GILBERT

219, 220. THE EIGHTEENTH CENTURY.—Swift, Pope, Defoe, Addison, Steele, and others are studied in the first semester; in the second, Gray, Johnson, Boswell, Goldsmith, the letter writers, and the early Romantic poets. Lectures, oral reports, and a term paper each semester. 6 s.h.

PROFESSOR IRVING

221, 222. ENGLISH LITERATURE OF THE EARLY NINETEENTH CENTURY.—The British Romantic poets and prose writers from Scott to the early Carlyle, with special attention to Wordsworth, Coleridge, and Keats. While these writers will be approached historically, the main object will be to understand and estimate the aesthetic and ethical values of their writings. Discussion and short papers. 6 s.h.

223, 224. ENGLISH LITERATURE OF THE LATER NINETEENTH CENTURY.—Some of the most important works of the period are discussed in class; the background is filled in by lectures and assigned reading. The first semester is devoted chiefly to Carlyle, Dickens, Thackeray, Tennyson, and Browning; the second semester to Arnold, Ruskin, Pater, George Eliot, Meredith, the Pre-Raphaelites, and Swinburne. A term paper each semester. 6 s.h.

PROFESSOR BAUM

227. LITERARY CRITICISM.—A study of the Greek and Roman critics, in chronological order but with emphasis on their permanent value rather than on the mere history; also of the Continental and English critics to about 1700. Lectures, reports, and a term paper. 3 s.h. PROFESSOR GILBERT

229, 230.—AMERICAN LITERATURE, 1800-1870.—The writers emphasized in the first semester are Emerson, Thoreau, and Hawthorne; in the second semester, Poe and Melville. In the first semester some attention is given also to Edwards, Franklin, Bryant, Longfellow, Holmes, Whittier, Lowell, and Parkman; and in the second semester, to Byrd, Jefferson, Paine, Freneau, Brown, Irving, Cooper, Kennedy, Simms, Timrod, and Lincoln. A term paper each semester. 6 s.h. PROFESSOR TURNER

231. EMERSON.—A study of Emerson's ideas as reflected in selected examples of his essays and poems. One test and one term paper. 3 s.h. PROFESSOR GOHDES

232. WHITMAN.—A detailed study of *Leaves of Grass* and of selected prose works. One test and one term paper. 3 s.h. PROFESSOR GOHDES

233. AMERICAN LITERATURE 1870-1900.—Selected works of the chief authors of the period, including Whitman, Lanier, Mark Twain, James, Howells, Crane, and Emily Dickinson. The lectures will deal with the social background as well as the literary trends and the careers of the major authors. A term paper. 3 s.h. PROFESSOR GOHDES AND VISITING LECTURER WOODRESS

234. AMERICAN LITERATURE OF THE TWENTIETH CENTURY.—Selected works of representative authors, including Dreiser, Edith Wharton, Mencken, Lewis, Willa Cather, O'Neill, Robinson, Frost, Eliot, Hemingway, and Faulkner. The lectures will deal primarily with literary trends as shaped by the social background. One test and one term paper. 3 s.h. PROFESSOR GOHDES AND VISITING LECTURER WOODRESS

239. SHAKESPEARE.—A study of the plays and poems, with attention to sources, earlier criticism, and the work of Shakespeare's contemporaries. 3 s.h. PROFESSOR GILBERT

245. THE EIGHTEENTH-CENTURY NOVEL.—Richardson, Fielding, Smollett, and Sterne are emphasized. Some attention is given to earlier prose fiction and to other contributing literary patterns. Lectures and short papers. 3 s.h. PROFESSOR BOYCE

251, 252. ENGLISH LITERATURE OF THE SEVENTEENTH CENTURY.—A survey of the major works in prose, poetry, and drama from 1600 to the death of Dryden. Lectures, reports and a term paper each semester. 6 s.h. PROFESSOR WARD

269, 270. SOUTHERN LITERATURE.—The principal authors and the chief literary development from the beginning to the present. Emphasis in the first semester is on Byrd, Kennedy, Simms, Poe, Timrod, and the humorists; in the second on Lanier, Harris, Cable, Mark Twain, Ellen Glasgow, and Faulkner. Attention is given to the historical and cultural background and to literary relations extending outside the region. 6 s.h. PROFESSOR TURNER

274. AMERICAN HUMOR.—The development of the native tradition in the Down-East humorists and the humorists of the Old Southwest. Extensive reading in Mark Twain and his contemporaries, and some attention to the continuation of the tradition after Mark Twain. 3 s.h. PROFESSOR TURNER

FOR GRADUATES

349, 350. SEMINAR COURSES.—An introduction to bibliography and methods of research. 6 s.h.

(a) SIXTEENTH AND SEVENTEENTH CENTURIES.

PROFESSORS GILBERT AND WARD

(b) EIGHTEENTH CENTURY.

PROFESSORS IRVING AND BOYCE

(c) EARLY NINETEENTH CENTURY.

(d) LATER NINETEENTH CENTURY.

PROFESSOR BAUM

(e) AMERICAN LITERATURE.

PROFESSORS GOHDES AND TURNER

FORESTRY

PROFESSOR KORSTIAN, CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES—308 SOCIAL SCIENCE; PROFESSORS HARRAR, KRAMER, AND SCHUMACHER; ASSOCIATE PROFESSOR ANDERSON; ASSISTANT PROFESSORS JOHNSON, RALSTON, AND STOLTENBERG

Major and minor work is offered in the scientific aspects of forestry leading to the Master of Arts and Doctor of Philosophy degrees. Work for these degrees may be pursued only in forest-tree physiology, wood anatomy and properties, forest pathology, silvics, forest soils, forest mensuration, forest entomology, and forest economics. College graduates who have had specialized training in botany or soil science and in allied basic subjects, such as physics, chemistry, geology, and zoology, may pursue graduate study and research only in the specialized fields for which their previous work has qualified them. Students who do not have previous training in forestry will be required to complete a minimum of thirty semester hours of approved work in forestry as a preliminary requirement to advanced study for the A.M. and Ph.D. degrees. The holders of these degrees will not be regarded as professionally trained foresters. For information on professional training in forestry, see *Bulletin of the School of Forestry*. For detailed information concerning admission to the Graduate School and for regulations governing candidacy for the A.M. and Ph.D. degrees and for other regulations, consult the proper pages in this *Bulletin*.

FOR SENIORS AND GRADUATES

224. FOREST PATHOLOGY.—Infectious and non-infectious diseases of forest trees, and related deterioration of forest products. Field and laboratory study of symptoms, etiology, and control. Prerequisites: Botany 1 and 2, or equivalent. 3 s.h.

ASSISTANT PROFESSOR JOHNSON

231. FOREST ENTOMOLOGY.—Morphology, general classification, life histories, and control of insects injurious to forest trees, logs, and lumber. 3 s.h.

ASSOCIATE PROFESSOR ANDERSON

251. SAMPLING METHODS IN FORESTRY.—Statistical background for solution of sampling problems with special reference to sample inventory of a forest property. Offered both semesters. Prerequisite: Forestry \$151. 3 s.h.

PROFESSOR SCHUMACHER

252. FOREST MENSURATION.—Empirical equation and curve fitting appropriate for construction of timber yield tables, tree volume and taper tables; significance tests and graphical solution of equations. Assignments require operation of calculating machines. Prerequisite: Forestry 251. 3 s.h.

PROFESSOR SCHUMACHER

254. DENDROLOGY.—Nomenclature, classification, and identification of woody plants with special reference to species indigenous to southeastern United States and other important forest regions of temperate North America. Laboratory and field work. Prerequisite: one year of botany. 3 s.h.

PROFESSOR HARRAR

257. DESIGN OF FORESTRY EXPERIMENTS AND ANALYSIS OF DATA.—Role of experimental design in field and laboratory, and statistical analysis of data as aspects of scientific method in forest research. 5 s.h.

PROFESSOR SCHUMACHER

259. PROPERTIES OF WOOD.—The chemical nature of wood substance and its industrial chemical derivatives. Wood-moisture relationships; pertinent non-mechanical physical properties; mechanical properties and factors affecting the strength of wood; standard timber testing procedures. Uses of woods as determined by their properties. Prerequisites: one year of college chemistry; one course in college physics. 3 s.h.

PROFESSOR HARRAR

260. WOOD ANATOMY.—Study of the physical features and the gross and minute structural characteristics of wood leading to the identification of the commercial woods of the United States, and the important tropical woods used in American wood-working industries. Elementary microtechnique. Prerequisite: one year of botany. 3 s.h.

PROFESSOR HARRAR

261. **FOREST SOILS.**—Origin, development, and classification of soils with special emphasis on those developed in humid climates; morphological, physical, and chemical properties of soils in relation to growth of trees; effect of forests on soils. Prerequisites: Chemistry 1 and 2, and Physics 1, or equivalents; physical geology, mineralogy, petrology, and analytical chemistry are also desirable. 3 s.h.

ASSISTANT PROFESSOR RALSTON

264. **SILVICS.**—Ecological foundations of silviculture with special reference to forest site factors; influence of forests on their environment; growth and development of trees and stands; origin, development, and classification of forest communities; methods of studying forest environments. Desirable prerequisites: plant physiology, plant ecology, and Forestry 261, or equivalent. 3 s.h.

ASSISTANT PROFESSOR RALSTON

276. **FORESTRY POLICY.**—Objective study and analysis of the development of public land and forestry policies in the United States, present policies of public and private forestry organizations, and current policy issues in the light of economic and other criteria. 2 s.h.

ASSISTANT PROFESSOR STOLTENBERG

277. **ECONOMICS OF FORESTRY.**—Principles of economics used in the analysis of factors affecting the supply of forest products, pricing of stumpage and primary forest products, factors affecting the demand for forest products, economic characteristics and problems of the major forest products industries; analysis of such specific private forestry problems as marketing, forest ownership pattern, taxation, credit, risk, and economic fluctuations. Prerequisite: at least one course in the principles of economics. 3 s.h.

ASSISTANT PROFESSOR STOLTENBERG

FOR GRADUATES

323-324. **ADVANCED FOREST PATHOLOGY.**—Advanced study and research on life histories and control of diseases of forest trees to meet individual needs of graduate students. Prerequisites: plant physiology and forest pathology. Credits to be arranged.

ASSISTANT PROFESSOR JOHNSON

326. **ADVANCED FOREST SOILS.**—Interrelations of the physical, chemical, and biological characteristics of forest and range soils. Prerequisites: analytical chemistry and Forestry 261. 3 s.h.

ASSISTANT PROFESSOR RALSTON

351-352. **ADVANCED PHYSIOLOGY OF FOREST TREES.**—Advanced study and research on problems in physiology of forest trees to meet individual needs of graduate students. Prerequisites: plant physiology and plant ecology or silvics. Credits to be arranged.

PROFESSOR KRAMER

356. **SEMINAR IN FOREST ECONOMICS.**—Examination and discussion of the application of economic concepts in forestry, the potential contribution of economic analysis to private and public forest management; current research in forest economics. Prerequisite: Forestry 277 or equivalent; courses in economic theory are desirable. 2 s.h.

ASSISTANT PROFESSOR STOLTENBERG

357-358. **RESEARCH IN FORESTRY.**—Credits to be arranged. Students who have had adequate training may do research under direction of members of the Faculty in the following branches of forestry:

a. **SILVICS.**—Prerequisites: Forestry 254, 261, and 264, or equivalents.

PROFESSOR KORSTIAN

b. **FOREST SOILS.**—Prerequisite: Forestry 261 or equivalent.

ASSISTANT PROFESSOR RALSTON

c. **FOREST ECONOMICS.**—Prerequisite: Forestry 277 or equivalent.

ASSISTANT PROFESSOR STOLTENBERG

f. **PROPERTIES OF WOOD.**—Prerequisites: Forestry 259 and 260, or equivalents.

PROFESSOR HARRAR

g. **FOREST MENSURATION.**—Prerequisites: Forestry 5151, 251, and 252, or equivalents.

PROFESSOR SCHUMACHER

h. **FOREST ENTOMOLOGY.**—Prerequisite: Forestry 231 or equivalent.

ASSOCIATE PROFESSOR ANDERSON

GERMANIC LANGUAGES AND LITERATURE

PROFESSOR VOLLMER, CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES—106A SOCIAL SCIENCE; PROFESSOR SHEARS

The Department of German offers graduate work leading to the A.M. degree. Students who expect to major in German should have had sufficient undergraduate courses in Germanic languages to enable them to proceed to more advanced work.

Students who wish to take courses in German for a minor should normally have completed a third-year course (in exceptional cases, a second-year course) of College German with acceptable grades.

For 1955-56 the courses planned are 211-212, 213-214.

203-204. EIGHTEENTH CENTURY.—Eighteenth-century German literature in its relation to contemporary European philosophy. 6 s.h. PROFESSOR VOLLMER

207-208. GERMAN ROMANTICISM.—The course covers the entire field of German Romanticism from 1800 to 1850. 6 s.h. PROFESSOR VOLLMER

209-210. KLEIST, GRILLPARZER, AND HEBBEL.—A study of the leading representatives of German drama in the first half of the nineteenth century. 6 s.h.

211-212. HEINRICH HEINE.—A study of the German poet and his immediate successors in the movement known as *Jungdeutschland*. 6 s.h. PROFESSOR VOLLMER

213-214. LITERATURE OF THE EMPIRE, 1871-1914.—A study of the literature of this period with special emphasis on a few leading writers such as Fontane, Hauptmann, Mann, and Hesse. 6 s.h. PROFESSOR SHEARS

RELATED COURSES IN OTHER DEPARTMENTS

The following courses in other departments are recommended to students, who are majoring in Germanics, as particularly valuable in building a proper background for Germanic studies:

(a) Graduate courses in literature or philology, offered by the ancient and modern language departments, to be selected after consultation with the Germanic Department.

(b) Graduate courses in history and philosophy, offered by those departments, to be selected after consultation with the Germanic Department.

HISTORY

PROFESSOR CARROLL, CHAIRMAN—235 ALLEN; PROFESSOR WOODY, DIRECTOR OF GRADUATE STUDIES—231 ALLEN; PROFESSORS CLYDE, CURTISS, HAMILTON, LANNING, AND MANCHESTER; ASSOCIATE PROFESSORS FERGUSON, NELSON, PARKER, ROPP, AND WATSON; ASSISTANT PROFESSOR STEVENS

A student who intends to work for an A.M. degree in history must present a total of eighteen semester hours of credit for undergraduate courses in history, of which six hours must be in American History if he plans to take his major in that field.

A candidate for the degree of Doctor of Philosophy in history is required to prepare himself in four fields of history, one of which must be in American history and another in the history of Western Europe. The choice and delimitation of fields is determined in consultation with his supervisor and the Director of Graduate Studies. The Department offers graduate instruction in the following fields: Western Europe; American history; Great Britain; Latin America; American Foreign Relations; the Far East in the modern period; Russia; Military history.

Students may receive credit for either semester of a hyphenated course without taking the other semester if they obtain written permission from the instructor and the Director of Graduate Studies.

For 1955-56 the courses planned are as follows: 205-206, 209-210, 217, 218, 221-222, 227, 228, 231-232, 235, 236, 241-242, 245-246, 261-262, 263-264, 267, 268, 269, 270, 305, 315, 317, 321, 343, 312, 320.

FOR SENIORS AND GRADUATES

203-204. **THE UNITED STATES, 1850-1900.**—The rise of sectionalism, secession, wartime problems of the Union and Confederacy, political and economic adjustments of Reconstruction, the status of the Negro, the New South, problems of capital and labor, the agrarian revolt, political parties and reforms, the Spanish-American War. 6 s.h.

PROFESSOR WOODY

205-206. **THE UNITED STATES IN THE TWENTIETH CENTURY.**—The emergence of the United States as a major power; attention is focused on domestic developments and conflicting theories of expansion and federal power. Emphasis in the first semester is on the progressive era and the first World War; the second semester is devoted to the twenties and to the Franklin Roosevelt administration. 6 s.h.

ASSOCIATE PROFESSOR WATSON

209-210. **CONSTITUTIONAL HISTORY OF THE UNITED STATES, 1760 TO THE PRESENT.**—A study of the basic problems in forming the Constitution; of its development through the major crises in the history of the United States; of the effects of changing social, cultural, economic, and political conditions on the Constitution. 6 s.h.

ASSISTANT PROFESSOR STEVENS

215-216. **FOREIGN POLICY AND DIPLOMACY OF THE UNITED STATES.**—The work in the first semester, covering the period 1775-1877, deals with such topics as the origins and evolution of basic foreign policies; isolation from Europe; paramount interests in Latin America, including the Monroe Doctrine; international co-operation in the Far East. The work in the second semester, covering the period since 1877, deals with such topics as the rise of the new Manifest Destiny; beginnings of American imperialism in Latin America and the Far East; the failure of traditional neutrality in the first World War; postwar conflicts between isolation and collective security; involvement in the second World War. 6 s.h.

PROFESSOR CLYDE

217, 218. **EUROPE SINCE 1870.**—International relations since the Franco-German War is the chief subject of study in this course; special emphasis is placed upon the underlying economic and political influences. 6 s.h.

PROFESSOR CARROLL

221-222. **THE AGE OF THE RENAISSANCE.**—The decline of characteristic features of medieval civilization and the rise of modern European institutions with particular attention to intellectual movements from Dante to Erasmus. 6 s.h.

ASSOCIATE PROFESSOR NELSON

225-226. **THE AGE OF THE REFORMATION.**—A survey of European civilization from 1500 through the Peace of Westphalia. 6 s.h.

ASSOCIATE PROFESSOR NELSON

227-228. **EUROPE IN THE NINETEENTH CENTURY.**—A study, beginning with the career of Napoleon Bonaparte, of the forces and personalities influential in the nineteenth century. Emphasis in the first semester is on the problems of the biographer; in the second, on those of a student of national communities. 6 s.h.

ASSOCIATE PROFESSOR PARKER

231-232. **THE HISPANIC COLONIES AND REPUBLICS IN AMERICA.**—The development of the Iberian states as colonizing powers, the conquest of America, the Spanish treatment of the Indian, the contest between Spain and other European nations over America, the independence movement, the struggle for stable government, the rise of liberalism with special emphasis upon Mexico from the Revolution of 1910 to the present, and basic inter-American developments. 6 s.h.

PROFESSOR LANNING

233-234. **THE INSTITUTIONAL, CULTURAL, AND SOCIAL HISTORY OF HISPANIC AMERICA.**—The first semester of this course deals with subject races, the development of mixed breeds, the governmental system, the Church and the Inquisition, and Spanish culture with emphasis upon university subjects. In the second semester the work deals with the political ideas of the wars of independence, revolution and dictatorship, the rise of public education, public health, land reform, and proletarian movements. 6 s.h.

PROFESSOR LANNING

235, 236. **EUROPEAN EXPANSION OVERSEAS.**—In the first semester attention is given to the age of discovery and to the origin and development of the great European overseas empires with special emphasis on the role of the Portuguese in India and the Americas. The work of the second semester deals with the decline of the mercantile empires, the emergence of independent centers of European culture overseas (Brazil being taken as one example), and the revival of mercantile imperialism in the late nineteenth and the twentieth centuries. 6 s.h.

PROFESSOR MANCHESTER

241-242. **THE FAR EAST.**—The history of the Western impact on Eastern Asia in the 19th and 20th centuries. Emphasis is placed on such matters as commercial and colonial expansion, the opening of China and Japan, the development by the Western Powers and Japan of colonial, imperialistic, and nationalistic interests, and the rise of Communist power in Asia. 6 s.h.

PROFESSOR CLYDE

243-244. **THE UNITED STATES AND THE FAR EAST.**—An historical analysis of American relations with the peoples of Eastern Asia during the 19th and 20th centuries. 6 s.h.

PROFESSOR CLYDE

245-246. **WAR IN THE MODERN WORLD.**—This course is concerned with the relations between warfare and modern political, economic and social conditions. Special attention is given to the development of British and American military methods and to the events of the American Civil War and the two World Wars. The work in the first semester deals with Clausewitz's theories of warfare and the period from the introduction of gunpower to 1871; in the second semester there is a more detailed analysis of recent land, sea, and air warfare. 6 s.h.

ASSOCIATE PROFESSOR ROPP

261-262. **RUSSIA IN THE TWENTIETH CENTURY.**—A study of the background of the Revolution of 1917 followed by an analysis of the history and policies of the Soviet state. 6 s.h.

PROFESSOR CURTISS

263-264. **AMERICAN COLONIAL HISTORY AND THE REVOLUTION, 1606-1783.**—The growth of institutions in the English colonies; the American Revolution. 6 s.h.

PROFESSOR WOODY

267. **THE TRANSITION FROM MEDIEVAL TO MODERN ENGLAND.**—A study of the changes in English society and ideas from the time of Edward III to that of Elizabeth. 3 s.h.

ASSOCIATE PROFESSOR FERGUSON

268. **ENGLAND FROM ELIZABETH TO ANNE.**—Political, social, and intellectual problems from the late sixteenth to the early eighteenth centuries. 3 s.h.

ASSOCIATE PROFESSOR FERGUSON

269. **BRITISH HISTORY FROM 1714 to 1867.**—The interrelationship of the leadership of such men as Walpole, Chatham, Pitt, and Peel with war, revolution, and social institutions; the rise of the cabinet system; the Industrial Revolution; imperial changes; and reform. 3 s.h.

PROFESSOR HAMILTON

270. **GREAT BRITAIN AND THE COMMONWEALTH OF NATIONS, 1867 TO THE PRESENT.**—Selected illustrations of such developments as the growth of party government and the rise of Labor; the problems of a declining economy, of recruitment of rulers under mass suffrage, and of diplomacy in the wars of the Twentieth Century; the Victorian empire; and the evolution of the dominions into a Commonwealth containing Asiatic peoples. 3 s.h.

PROFESSOR HAMILTON

FOR GRADUATES

305. **SEMINAR IN THE HISTORY OF ENGLAND AND THE BRITISH EMPIRE.**—The work consists of practical training in the methods of historical research based on sources for modern British history. Year course. 2 s.h.

PROFESSOR HAMILTON

307. **SEMINAR IN AMERICAN POLITICAL HISTORY.**—Year course. 2 s.h.

315. **SEMINAR IN SOUTHERN HISTORY.**—Year course. 2 s.h.

PROFESSOR WOODY

317. SEMINAR IN RECENT EUROPEAN HISTORY.—Year course. 2 s.h.

PROFESSOR CARROLL

321. SEMINAR IN THE HISTORY OF SPAIN, HISPANIC AMERICA, AND INTER-AMERICAN RELATIONS.—Year course. 2 s.h.

PROFESSOR LANNING

336. POLITICAL HISTORY OF THE UNITED STATES, 1783-1860.—Among the topics treated are public issues, political ideas, forms of party organization, and techniques for attaining personal and party success in politics. Year course. 4 s.h.

337. SOCIAL AND ECONOMIC LIFE OF THE OLD SOUTH.—Conditions and trends in the South in respect to population movements, transportation, agriculture, slavery, urban life, commerce, manufacturing, religion, education, and other intellectual activities. Year course. 4 s.h.

343. SEMINAR IN THE HISTORY OF AMERICAN FOREIGN RELATIONS AND THE FAR EAST.—Particular attention is given to a critical examination of the bibliography of the field. Year course. 2 s.h.

PROFESSOR CLYDE

HISTORIOGRAPHY AND THE TEACHING OF HISTORY

FOR GRADUATES

312. SEMINAR IN THE TEACHING OF HISTORY IN COLLEGE.—The work in this course is intended to acquaint students with the problems involved in teaching history in college. It includes critical observation of the teaching by members of the History Staff in Duke University. Year course. 2 s.h.

PROFESSOR MANCHESTER AND PROFESSOR HAMILTON

This course is required of all candidates for the degree of Doctor of Philosophy who are in residence as many as two years at Duke University unless excused therefrom by the Department.

320. HISTORIOGRAPHY.—A critical study of the process of finding, appraising, and interpreting the sources of history and of the presentation of the results in narrative. Works of important historians from Herodotus to the present are analyzed. The student undertakes specific exercises in research, criticism, and narration. There is consideration of such general topics as schools, theories, philosophies, and the function of history. Year course. 4 s.h.

ASSOCIATE PROFESSOR NELSON

This course is required of all candidates for the degree of Doctor of Philosophy who are in residence as many as two years at Duke University unless excused therefrom by the Department.

RELATED COURSES IN OTHER DEPARTMENTS

Economics 215, 216, 231, 311-312; Political Science 223, 224, 225, 226, 227, 228, 229, 231. Religion 309, 395, 396; Sociology 382.

MATHEMATICS

PROFESSOR GERGEN, CHAIRMAN—134 PHYSICS BUILDING; PROFESSOR ROBERTS, DIRECTOR OF GRADUATE STUDIES—230 PHYSICS BUILDING; PROFESSORS CARLITZ, DRESSEL, ELLIOTT, AND THOMAS

Graduate work in the Department of Mathematics is offered leading to the A.M. and Ph.D. degrees. The student, in his undergraduate work, must have had courses in differential and integral calculus, and at least 6 semester hours of other courses in mathematics on the junior or senior level.

The A.M. degree with a major in mathematics is awarded primarily on the basis of scholarship. Of the 24 semester hours of course work required for this degree, 18 semester hours must be taken in the Department of Mathematics.

The Ph.D. degree in mathematics is awarded upon the demonstration of ability and training in research. The original dissertation, therefore, becomes the most important of the formal requirements for this degree.

Because of the important literature of mathematics written in German and French, the student must have a practical reading knowledge of these languages near the beginning of his graduate study.

For 1955-56 the courses planned are 227-228, 253-254, 285, 286, 291-292, 371-372.

FOR SENIORS AND GRADUATES

227-228. **THEORY OF NUMBERS.**—Congruences, arithmetic functions, compound moduli, quadratic reciprocity, Gauss sums, quadratic forms, sums of squares. Prerequisite: calculus. 6 s.h. PROFESSOR CARLITZ

229-230. **ALGEBRAIC NUMBERS.**—Ideals, unique factorization, divisors of the discriminant, determination of the class number. Prerequisite: theory of equations. 6 s.h. PROFESSOR CARLITZ

235-236. **ABSTRACT ALGEBRA.**—Groups, fields, rings, matrices, quadratic and bilinear forms, general Galois theory, hypercomplex systems. Prerequisite: calculus. 6 s.h. PROFESSOR CARLITZ

247-248. **ARITHMETIC OF POLYNOMIALS.**—Field theory, detailed study of finite fields, special polynomials and functions, valuation theory, the zeta function. Prerequisite: Mathematics 235 or consent of the instructor. 6 s.h. PROFESSOR CARLITZ

253-254. **DIFFERENTIAL GEOMETRY.**—Curves and surfaces in three-dimensional Euclidean space, applicability, differential parameters, Riemannian geometry of n -space. Prerequisite: calculus. 6 s.h. PROFESSOR THOMAS

255-256. **PROJECTIVE GEOMETRY.**—Postulational, synthetic treatment centering around Desargues' theorem and the principle of projectivity. Conics, coordinates, order, continuity, metric properties. Prerequisite: calculus. 6 s.h. PROFESSOR THOMAS

271-272. **INTRODUCTORY TOPOLOGY.**—Topological properties of Euclidean spaces, set-theoretic and combinatorial methods. Prerequisite: calculus. 6 s.h. PROFESSOR ROBERTS

285. **MATHEMATICAL ANALYSIS FOR CHEMISTS AND PHYSICISTS.**—Vectors, line and surface integrals, tensors, complex variables, differential and integral equations. Prerequisite: Mathematics 53. 3 s.h. PROFESSOR DRESSSEL

286. **MATHEMATICAL ANALYSIS FOR CHEMISTS AND PHYSICISTS.**—Wave equation, Fourier series, heat equations, telegraphic equation, Legendre polynomials, Bessel functions, Schrödinger's equation. Prerequisite: Mathematics 53. 3 s.h. PROFESSOR DRESSSEL

291-292. **THEORY OF FUNCTIONS.**—Limits, implicit functions, power series, double series, Cauchy's theorem and its applications, residues, Riemann surfaces, conformal mapping. Prerequisite: calculus. 6 s.h. PROFESSOR GERGEN

FOR GRADUATES

325-326. **REAL VARIABLE.**—Number system, Lebesgue and Stieltjes integrals, topics in Fourier series. Prerequisite: Mathematics 291-292. 6 s.h. PROFESSOR GERGEN

337-338. **EXISTENCE THEOREMS.**—Systems of partial differential equations, Pfaffian systems, theorems of Cauchy, Riquier, and Cartan, singular integral varieties. Prerequisite: Mathematics 291-292. 6 s.h. PROFESSOR THOMAS

343-344. **ORDINARY DIFFERENTIAL EQUATIONS.**—Solution by separation of variables, exact differentials, integrating factors, solution in series. Cauchy's existence theorem, linear differential systems, singular points, partial differential equations equivalent to ordinary systems. Prerequisite: Mathematics 291-292. 6 s.h. PROFESSOR THOMAS

371-372. **DIMENSION THEORY.**—Abstract spaces, separation theory for Euclidean spaces, dimension theory. Prerequisite: Mathematics 271-272. 6 s.h. PROFESSOR ROBERTS

PHILOSOPHY

PROFESSOR NEGLEY, CHAIRMAN—3-1-2 WEST DUKE BUILDING; PROFESSOR BAYLIS, DIRECTOR OF GRADUATE STUDIES—3-1-3 WEST DUKE BUILDING; PROFESSOR PATTERSON; ASSISTANT PROFESSORS BUCK, CLARK, PEACH, AND WELSH

The Department of Philosophy offers graduate work leading to the A.M. and Ph.D. degrees. Students may specialize in any of the following fields; The History of Philosophy; Logic; Philosophy of Science; Epistemology; Metaphysics; Philosophical Analysis; Ethics; Aesthetics; Political Philosophy; Philosophy of Religion; and Philosophy of Law.

Individual programs of study are developed to meet each student's needs. The following requirements, however, are fundamental: (1) in February of their first year new graduate students in philosophy who are not then taking the Preliminary Examinations for the Ph.D. are required to take Qualifying Examinations in the history of philosophy, ancient and modern, and in logic, both classical and symbolic. A student's achievement on these examinations will be regarded as indicative of his ability to undertake advanced graduate work. (2) Preliminary Examinations for the Ph.D., which may be taken only after a student has met the language requirements for that degree, should be passed during the first year of study beyond the A.M. degree. In these examinations students are expected to combine historical knowledge with critical understanding.

Work in a minor field outside of the Department, but not necessarily confined to any one department, must include six hours for the A.M. and twelve for the Ph.D. and may include more as a student's program requires or permits.

For 1955-56 the courses planned are as follows: 202, 205, 211, 219, 220, 227, 228, 232, 241, 250, 331 (cc), 332 (b).

FOR SENIORS AND GRADUATES

202. PHILOSOPHY OF ART.—A study of some fundamental issues in aesthetics, with particular reference to the fields of literature, music, and painting. Problems discussed include: the nature and purposes of the arts; meaning in the arts; art and morality; the role of standards in art criticism; aesthetic judgment; interpretation and evaluation. 3 s.h. (E)

ASSISTANT PROFESSOR WELSH

Offered every year.

203. CONTEMPORARY ETHICAL THEORIES.—Critical discussion and evaluation of the ethical views of twentieth century British and American philosophers. 3 s.h. (E)

PROFESSOR BAYLIS

Offered in 1956-7 and in alternate years.

205. EPISTEMOLOGY.—A critical and evaluative study of rival theories of meaning, truth and knowledge, of the nature and grounds of a priori knowledge, and of the nature of empirical knowledge and the types of empirical evidence. 3 s.h. (E)

Offered every year.

PROFESSOR BAYLIS

208. POLITICAL PHILOSOPHY.—Analysis of the structure of social organization with particular reference to the nature of political and legal institutions. 3 s.h. (E)

PROFESSOR NEGLEY

Offered in 1956-7 and in alternate years.

210. PHILOSOPHY OF RELIGION.—A critical and constructive study of the nature of religion, of its various forms and manifestations, and of its functions in human life. 3 s.h. (E)

PROFESSOR PATTERSON

Offered in 1956-7.

211. PLATO.—An examination of Plato's views with respect to knowledge, reality, and the state. 3 s.h. (E)

PROFESSOR PATTERSON

Offered in 1955-6 and in alternate years.

217. ARISTOTLE.—An analysis of Aristotle's views with respect to knowledge, reality, and the state. 3 s.h. (E)

PROFESSOR PATTERSON

Offered in 1956-7 and in alternate years.

218. **MEDIEVAL PHILOSOPHY.**—A study of the philosophy of the Middle Ages with special attention to selected texts from the works of Christian, Jewish and Arabian philosophers. 3 s.h. (E) PROFESSOR PATTERSON

Offered in 1956-7 and in alternate years.

219. **KANT.**—Reading and discussion of his philosophy, with some attention to historical continuity. 3 s.h. (E) PROFESSOR NEGLEY

Offered in 1955-6 and in alternate years.

220. **THE POST-KANTIANS.**—The development from Kant through Fichte and Schelling to Hegel; emphasis on the Hegelian dialectic and its influence on political and legal philosophy. 3 s.h. (E) PROFESSOR NEGLEY

Offered in 1955-6 and in alternate years.

222. **REASON AND COMMON SENSE IN 17TH AND 18TH CENTURY BRITISH THOUGHT.**—Studies in the theories of reason and sentiment following Hobbes, and the development of opposition among rational, common sense and empirical theories of knowledge and conduct. Readings in Cumberland, Shaftesbury, Hutcheson, Reid and others. 3 s.h. (E) ASSISTANT PROFESSOR PEACH

Offered in 1956-7 and in alternate years.

223. **CONTEMPORARY PHILOSOPHY: IDEALISM.**—Examination and analysis of the idealist position in recent and contemporary philosophy, with special attention to the works of F. H. Bradley and the British Idealists. 3 s.h. (E)

Offered in 1956-7 and in alternate years.

PROFESSOR NEGLEY

224. **CONTEMPORARY PHILOSOPHY: REALISM.**—A critical analysis, comparison and evaluation of the several varieties of recent realistic theories, presentative and representative. 3 s.h. (E) PROFESSOR BAYLIS

Offered in 1956-7 and in alternate years.

225. **BRITISH EMPIRICISM.**—A critical study of the writings of Locke, Berkely, and Hume, with special emphasis on problems in the theory of knowledge. 3 s.h. (E)

Offered in 1956-7 and in alternate years.

227. **CONTINENTAL RATIONALISM.**—A critical study of the writings of Descartes, Spinoza, and Leibnitz, with special emphasis on problems in the theory of knowledge and metaphysics. 3 s.h. (E) ASSISTANT PROFESSOR PEACH

Offered in 1955-6.

228. **RECENT AND CONTEMPORARY PHILOSOPHY.**—A critical study of outstanding philosophical views from Schopenhauer to the present. 3 s.h. (E)

Offered in 1955-6 and in alternate years.

ASSISTANT PROFESSOR PEACH

232. **SPECIAL PROBLEMS IN THE PHILOSOPHY OF SCIENCE.**—Selected topics concerning the methods of the sciences and the philosophy of science. 3 s.h. (E) ASSISTANT PROFESSOR CLARK

Offered every year.

236. **ORIENTAL PHILOSOPHY.**—A study of the genesis of philosophical ideas in the Upanishads and the Bhagavadgita, and of the developments of the orthodox systems and of the philosophies of the Jains and the Buddhists. 3 s.h. (E)

Offered in 1957-8 and every third year.

PROFESSOR PATTERSON

241. **LOGIC.**—Fundamental Problems of Logic. 3 s.h. (E)

Offered every year.

ASSISTANT PROFESSOR CLARK

250. **PHILOSOPHICAL ANALYSIS.**—A critical study of recent and contemporary essays in philosophical analysis, and an evaluation of the nature, methods, and results of this movement. 3 s.h. (E) PROFESSOR BAYLIS AND ASSISTANT

Offered in 1955-6 and in alternate years.

PROFESSOR BUCK

252. **METAPHYSICS.**—A critical and evaluative study of rival metaphysical theories and their bases. Analysis of the fundamental metaphysical categories and of metaphysical methods. 3 s.h. (E) PROFESSOR BAYLIS

FOR GRADUATES

331, 332.—Seminars in Special Fields of Philosophy. 3 s.h. (E)

Offered as occasion arises.

ALL MEMBERS OF THE GRADUATE STAFF

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|----------------------------|----------------------------|
| (a) Logic | (aa) Philosophy of Science |
| (b) Ethics | (bb) Political Philosophy |
| (c) Aesthetics | (cc) Epistemology |
| (d) Philosophy of Religion | (dd) Metaphysics |
| (e) History of Philosophy | (ee) History of Philosophy |

351, 352. SEMINAR IN THE TEACHING OF PHILOSOPHY.—Required of all candidates for the Ph.D. degree in Philosophy. Discussion of the problems of teaching philosophy at the undergraduate level. Practice teaching in occasional undergraduate sections. 1 s.h. (E)

ALL MEMBERS OF THE GRADUATE STAFF

Offered every year.

PHYSICS

PROFESSOR NIELSEN, CHAIRMAN—119 PHYSICS BUILDING; ASSOCIATE PROFESSOR GREULING, DIRECTOR OF GRADUATE STUDIES—213 PHYSICS BUILDING; PROFESSORS GORDY, NEWSON, NORDHEIM, AND SPONER; ASSOCIATE PROFESSOR FAIRBANK; ASSISTANT PROFESSORS LEWIS, BLOCK, AND WILLIAMSON

The Department of Physics offers graduate work leading to the A.M. and Ph.D. degrees. Course work is designed to give a broad basic foundation in classical and modern physics. All graduate students will be expected to acquire a thorough knowledge of the various branches of classical physics and some familiarity with modern physics and with basic laboratory skills. They will be required to take such course work in the 200 number courses as may be necessary to obtain this foundation.

The student will be required to take such course work as will best be adapted to the kind of work he will subsequently specialize in and to the kind of research he will undertake. The choice of minor will be similarly determined.

Since a practical reading knowledge of French and German is highly desirable for the student of physics, he should satisfy these language requirements as early as possible.

For 1955-56 the courses planned are: 201-202, 213-214, 217-218, 219-220, 303, 315-316, 323, 324, 331, 335, 351-352.

FOR SENIORS AND GRADUATES

201-202. MECHANICS.—The fundamental principles of Newtonian mechanics; general dynamics of systems of particles, and rigid bodies; the methods of Lagrange and Hamilton; generalized mechanics. Prerequisite: Physics 125. 6 s.h.

ASSISTANT PROFESSOR WILLIAMSON AND
PROFESSOR NORDHEIM

213-214. CONTEMPORARY PHYSICS.—A course which covers the fundamental concepts and the experimental basis of modern physics. Three lectures each week. 6 s.h.

ASSISTANT PROFESSOR LEWIS

217-218. ADVANCED PHYSICS LABORATORY.—Measurements involving the fields of mechanics, electricity, magnetism, heat, sound, optics and modern physics. 2-6 s.h.

ALL MEMBERS OF THE GRADUATE STAFF

219. ELECTRICITY AND MAGNETISM.—Fundamentals of electricity and magnetism. Motion of charged particles in fields and the physics of electron tubes. Direct and alternating current circuits and networks. Electromagnetic waves. 3 s.h.

ASSISTANT PROFESSOR LEWIS

220. ELECTRON TUBE CIRCUITS.—Linear circuit analysis, rectifiers, filters, linear amplifiers, feedback, noise, power amplifiers, oscillators, modulation, relaxation oscillators. 3 or 4 s.h.

ASSISTANT PROFESSOR WILLIAMSON

FOR GRADUATES

303-304. THERMODYNAMICS AND STATISTICAL MECHANICS.—Fundamental laws of thermodynamics and statistical mechanics with applications to physics and chemistry. Gas laws; transport phenomena; elements of quantum statistics. 6 s.h. ASSOCIATE PROFESSORS FAIRBANK AND GREULING

306. LOW TEMPERATURE PHYSICS.—A study of the properties of matter near the absolute zero of temperature; superconductivity, liquid helium, adiabatic demagnetization. Prerequisite: Physics 303. 3 s.h. ASSOCIATE PROFESSOR FAIRBANK

315-316. PRINCIPLES OF QUANTUM THEORY.—Original and fundamental concepts of quantum theory; wave and matrix mechanics; theory of measurements; exclusion principle and electronic spin. Prerequisite: Physics 201-202. 6 s.h. PROFESSOR NORDHEIM

318-319. ELECTROMAGNETIC FIELD THEORY.—Electrostatics and potential theory; dielectric and magnetic media; the magnetic field of currents and the law of induction. Maxwell's electrodynamics; theory of wave optics; refraction; interference, and diffraction. Crystal optics. Prerequisites: Physics 126, 175. 6 s.h. ASSOCIATE PROFESSOR GREULING

320. THEORY OF ELECTRONS.—Lorentz' equations of electrodynamics. Classical theories of dispersion, magnetism, and conductivity. Theory of relativity. Prerequisite: Physics 318-319. 3 s.h. ASSOCIATE PROFESSOR GREULING

323. THEORY OF ATOMIC SPECTRA.—Excitation of spectra, computation of wave lengths from photographs of spectra, study of the structure of atomic spectra with applications. 3 s.h. PROFESSOR SPONER

324. THEORY OF MOLECULAR SPECTRA.—A study of the structure of molecular spectra with applications. 3 s.h. PROFESSOR SPONER

331. MICROWAVE RADIATION.—Microwave generators, cavity resonators, transmission lines, radiation propagation and detection. 4 s.h. PROFESSOR GORDY

335. MICROWAVE SPECTROSCOPY.—Application of microwaves in the determination of molecular, atomic and nuclear properties. Stark and Zeeman effects in microwave spectroscopy. Magnetic resonance absorption. 3 s.h. PROFESSOR GORDY

340. STRUCTURE OF MATTER.—Selected topics dealing with the constitution of matter, such as crystal structure and x-rays, the solid state and problems of molecular structure. 2 s.h. PROFESSOR SPONER

341. ADVANCED TOPICS IN QUANTUM THEORY.—Quantum theory of radiation and collisions with special reference to nuclear and high energy physics. Prerequisite: Physics 315-316. 3 s.h. PROFESSOR NORDHEIM

343. NUCLEAR PHYSICS.—Elementary theory of the deuteron; low energy neutron proton scattering; theory of nuclear reactions; penetration of potential barriers; nuclear energy levels. Prerequisite: Physics 315. 3 s.h. PROFESSOR NEWSON

344. ADVANCED NUCLEAR PHYSICS.—The deuteron, nuclear forces, scattering of elementary particles, beta-radiation. Other aspects of nuclear physics susceptible of theoretical interpretation. Prerequisite: Physics 343. 3 s.h. PROFESSOR NORDHEIM

351-352. SEMINAR.—A series of weekly discussions on topics related to the research projects under investigation in the Department. 2 s.h.

ALL MEMBERS OF THE GRADUATE STAFF

POLITICAL SCIENCE

PROFESSOR RANKIN, CHAIRMAN—308 LIBRARY; PROFESSOR WILSON, DIRECTOR OF GRADUATE STUDIES—405 NEW TOWER, LIBRARY; PROFESSORS COLE, CONNERY, HALLOWELL, AND VON BECKERATH; VISITING PROFESSOR REDFORD; ASSOCIATE PROFESSOR BRAIBANTI

The Department of Political Science offers graduate work leading to the A.M. and Ph.D. degrees. Instruction is designed to prepare the student for teaching,

for government service, and for other work related to public affairs. Before undertaking graduate study in political science, a student is ordinarily expected to have completed at least 12 semester hours of course work in political science, including some work in American government.

Fields of political science in which instruction is at present offered for candidates for the degree of Doctor of Philosophy are the following: American Government and Constitutional Law; Comparative Government; Political Theory; American State and Local Government; International Law; Public Administration. Candidates for the degree of Doctor of Philosophy who propose to major in political science must elect five fields, including Comparative Government and Political Theory; at least one of the five fields must be taken in a department other than the Department of Political Science.

In 1955-56 the courses planned are 207, 209, 211, 212, 223, 224, 225, 226, 227-228, 229, 230, 231, 235, 241, 246, 271, 291, 310, 321, 325, 328, and 341.

FOR SENIORS AND GRADUATES

207. AMERICAN CONSTITUTIONAL LAW AND THEORY.—A study of leading principles of American government, as developed through judicial interpretation of the Constitution. 3 s.h.

PROFESSOR RANKIN

209. PROBLEMS IN STATE AND LOCAL GOVERNMENT IN THE UNITED STATES.—A study of the historical development of state and local governments, their present organizations and subdivisions, and their relation to each other. Special attention is given to the position of the states in the federal union through the study of federal-state, inter-state, and state-local relations. 3 s.h.

PROFESSOR RANKIN

211. POLITICAL INSTITUTIONS OF THE FAR EAST.—An analysis of the ideas underlying the development of government in Japan, China, and Korea. Study of the writings of Lao-tse, Confucius and the sacred books of Buddhism and Shinto. Particular attention is given to the theory of Confucian bureaucracy, the Taikwa Reform, the development of the Tokugawa administrative state, the constitutional reforms of Sun Yat-sen in China and of the Meiji Era in Japan. 3 s.h.

ASSOCIATE PROFESSOR BRAIBANTI

212. INTERNATIONAL POLITICS OF THE FAR EAST.—An analysis of the relations of China, Japan, and Korea *inter se* and with outside powers, with emphasis upon changing power relationships within the Asian cultural sphere. 3 s.h.

ASSOCIATE PROFESSOR BRAIBANTI

221. INTERNATIONAL PUBLIC ORGANIZATION.—A study of the structure and functioning of the United Nations organs, of related specialized agencies such as the International Labor Organization, and of regional agencies such as the Organization of American States. 3 s.h.

PROFESSOR WILSON

223. POLITICAL THOUGHT TO THE SEVENTEENTH CENTURY.—A survey from the time of Plato to the close of the seventeenth century; Graeco-Roman, Patristic and Germanic thought; individualism and cosmopolitanism; effect of the Church-State controversy and the conciliar movement; medieval constitutionalism; legislative sovereignty. 3 s.h.

PROFESSOR WILSON

224. MODERN POLITICAL THEORY.—An historical survey and philosophical analysis of political theory from the beginning of the seventeenth to the middle of the nineteenth century. Attention is given to the rise of liberalism, the Age of Enlightenment, the romantic and conservative reaction, idealism and utilitarianism. 3 s.h.

PROFESSOR HALLOWELL

225. COMPARATIVE GOVERNMENT.—A comparative study of modern political institutions with particular attention to European constitutional government and politics. 3 s.h.

PROFESSOR COLE

226. COMPARATIVE GOVERNMENT.—A comparative study of modern political institutions with particular attention to European authoritarian and dictatorial government and politics. 3 s.h.

PROFESSOR COLE

227-228. **INTERNATIONAL LAW.**—Elements of international law, particularly as interpreted and applied by the United States; rights and duties of states with respect to recognition, state territory and jurisdiction, nationality, diplomatic and consular relations, treaties, treatment of aliens, pacific settlement of disputes, international regulation of the use of force, and collective security. 6 s.h.

PROFESSOR WILSON

229. **RECENT AND CONTEMPORARY POLITICAL THEORY.**—The rise of positivism and its impact upon modern political thought, the origins of socialism, Marxism and its variants, socialism in the Soviet Union, nationalism, Fascism and National Socialism, the crisis in modern democracy, Christianity and the social order. 3 s.h.

PROFESSOR HALLOWELL

230. **AMERICAN POLITICAL INSTITUTIONS.**—A study of the formation and development of institutions of the national government in the United States, with historical and analytical treatment. Among other topics this course is concerned with the Constitutional Convention of 1787, and the development of Congress, the Presidency, and the Supreme Court. 3 s.h.

PROFESSOR RANKIN

231. **AMERICAN POLITICAL THEORY.**—An analysis of the main currents in American political thought from colonial beginnings to the present day, with emphasis upon the development of liberalism in America. 3 s.h.

PROFESSOR HALLOWELL

235. **THE BRITISH COMMONWEALTH.**—An analysis of the political relationships between the members of the Commonwealth and a comparative study of the governments of the Dominions, with particular reference to Canada. 3 s.h.

PROFESSOR COLE

241. **ADMINISTRATIVE MANAGEMENT.**—An advanced course in public administration with special attention being given to the development of scientific management, its application to government in the United States and a consideration of current problems in organization, procedures, work simplification, and management improvement. 3 s.h.

PROFESSOR CONNERY AND VISITING

PROFESSOR REDFORD

242. **NATIONAL ADMINISTRATION.**—A study of the administrative organization, working concepts and procedures of the United States Government, illustrated through the operations of the Bureau of the Budget. 3 s.h.

PROFESSOR CONNERY

246. **GOVERNMENT ADMINISTRATION AND PUBLIC POLICY.**—Through use of the laboratory and case study techniques, a consideration of the types of administrative problems that the United States Government encounters in the field of public policy, and their possible solution. 3 s.h.

PROFESSOR CONNERY

271. **SOCIOPOLITICS AND CAPITALISM.**—Labor and labor policies in Western Europe and the United States in the nineteenth and twentieth centuries; the development of monopoly power and political power of labor in recent decades. 3 s.h.

PROFESSOR VON BECKERATH

291. **PROBLEMS OF MUNICIPAL GOVERNMENT.**—An analysis of problems relating to the structural system and activities of municipalities in the United States. 3 s.h.

PROFESSOR RANKIN

292. **MUNICIPAL ADMINISTRATION.**—A study of principles and methods relating to municipal administration in the United States. 3 s.h.

PROFESSOR RANKIN

FOR GRADUATES

301-302. **DEPARTMENTAL GRADUATE SEMINAR.**—An introduction to research methodology, inter-disciplinary relationships and current research problems. Required of all graduate majors in political science. No credit.

PROFESSORS WILSON, RANKIN, COLE, HALLOWELL, CONNERY, BRAIBANTI,
OTHER MEMBERS OF THE FACULTY AND VISITING LECTURERS

310. **SEMINAR IN STATE GOVERNMENT.**—Open to students who have completed course 209 or its equivalent. 3 s.h.

PROFESSOR RANKIN

311. SEMINAR IN FAR EASTERN POLITICS.—Open to students who have completed course 211 or its equivalent. 3 s.h. ASSOCIATE PROFESSOR BRAIBANTI

321. SEMINAR IN POLITICAL THEORY.—Open to students who have completed 6 semester hours in Political Science 223, 224, 229, 231 or their equivalents. 3 s.h. PROFESSOR HALLOWELL

325. SEMINAR IN COMPARATIVE GOVERNMENT.—Open to students who have completed courses 225 and 226 or their equivalents. 3 s.h. PROFESSOR COLE

328. SEMINAR IN INTERNATIONAL LAW.—Open to students who have completed course 227-228 or its equivalent. 3 s.h. PROFESSOR WILSON

341. SEMINAR IN PUBLIC ADMINISTRATION.—Open to students whose admission is approved by the instructor. 3 s.h. PROFESSOR CONNERY AND VISITING PROFESSOR REDFORD

RELATED COURSES IN OTHER DEPARTMENTS

Economics 233, 237-238, 315, 316, 329, 365; History 215-216, 217-218, 233-234, 261-262; Philosophy 208; Religion 224, 394; Sociology 382.

RELATED COURSE WORK IN THE SCHOOL OF LAW

There may be graduate credit for course work completed in the Duke University School of Law, under the regulations referred to on page 00 of this *Bulletin*.

PSYCHOLOGY

PROFESSOR RODNICK, CHAIRMAN—107 BIVINS HALL; PROFESSOR ZENER, DIRECTOR OF GRADUATE STUDIES—205 PSYCHOLOGICAL LABORATORY; PROFESSOR RODNICK, DIRECTOR OF CLINICAL TRAINING; PROFESSORS ADAMS, DAI, KOCH, KUDER, AND LUNDHOLM; ASSOCIATE PROFESSORS BANHAM, COHEN, GARMEZY, AND KIMBLE; ASSISTANT PROFESSORS BORSTELMANN, COLLIER, GUTTMAN, AND JONES

The Department of Psychology offers advanced work in general experimental psychology leading to the A.M. and Ph.D. degrees and in clinical psychology leading to the Ph.D. only.

Whatever the field of psychology in which a student eventually specializes, he is required to have a thorough background in the facts, methods, and theories of general psychology. Graduate programs are arranged to achieve this common background primarily during the first year, with specialization in course work reserved for subsequent years.

Normally, the candidate for the Ph.D. degree is expected, by the end of his second year, in addition to having worked out a program of studies, to have passed his language examinations, a departmental qualifying examination in his area of intended doctoral research, and the preliminary examination. By this time also his doctoral dissertation subject should be formulated. Emphasis is laid upon the completion of the dissertation, directed by a member of the staff, demonstrating competence and independence in the investigation of an original and significant problem.

As an integral part of their academic work during the first, second and fourth years, students specializing in clinical psychology will undertake field work in a variety of clinical settings. In addition, they will normally spend the third year in an appropriate, approved internship. The fourth year will be spent in residence at Duke University to complete the dissertation.

The field of minor work is not restricted, but it may be pointed out that the fields most relevant to graduate study in psychology are philosophy of science, sociology and anthropology, physiology, neuroanatomy, mathematics, and education.

Further details concerning the program of studies in psychology may be obtained from the Director of Graduate Studies in Psychology.

For 1955-56 the courses planned are 201-102, 203, 206, 209, 212, 215, 221-222, 223 (second semester only), 265, 266, 303-304, 305, 306, 308, 309, 310, 312, 313, 335-336, 341, 342, 371.

FOR SENIORS AND GRADUATES

201-202. PROSEMINAR.—An integrated core curriculum in general psychology, designed to provide an advanced background in the principles, and the empirical and theoretical methods, of the major fields of psychology. The topics include: scientific methods in psychology, biological foundations of behavior, motivation, learning, perception, behavior development, personality, the social determinants of behavior, and contemporary psychological theories. Required of all first year students. 9 s.h. fall semester, 6 s.h. spring semester.

PROFESSORS ADAMS, KOCH, KUDER, RODNICK, AND ZENER;
ASSOCIATE PROFESSORS BANHAM AND KIMBLE; ASSISTANT
PROFESSORS COLLIER AND GUTTMAN

203. DYNAMIC PSYCHOLOGY: CONATION AND OUR CONSCIOUS LIFE.—A systematic presentation of the psychology of adult human achievements, adaptive as well as creative, with emphasis upon the significance of these endeavors of the acts of experiencing. 3 s.h.

PROFESSOR LUNDHOLM

206. SOCIAL PSYCHOLOGY.—Kinds of membership character; psychology of social movements; propaganda; revolution; nationalism; war. 3 s.h.

PROFESSOR ADAMS AND ASSISTANT PROFESSOR JONES

209. EXPERIMENTAL METHODS IN PSYCHOLOGY.—A study of methods for the identification, control, and recording of essential variables in psychological situations, with emphasis upon the relation of experimental techniques to problem formulation. Laboratory, lectures, and discussions. 3 s.h.

PROFESSORS ADAMS AND ZENER; ASSOCIATE PROFESSOR KIMBLE;
ASSISTANT PROFESSORS COLLIER AND GUTTMAN

212. PHYSIOLOGICAL PSYCHOLOGY.—An advanced study of the interrelationships between psychological and physiological processes. 3 s.h.

ASSISTANT PROFESSOR GUTTMAN

215. DEVELOPMENTAL PSYCHOLOGY.—The environmental forces conditioning the development of personality structure and the mechanisms contributing to psychological growth; critical periods in character formation from infancy to senescence. 3 s.h.

PROFESSOR ADAMS

221-222. PROPRACTICUM.—Lectures, demonstrations and practice in the use of basic procedures, projective and non-projective, employed in clinical psychology; principles of interpretation and reporting of test findings. Laboratory periods will be held in clinical field facilities. 3 s.h. each semester.

ASSISTANT PROFESSOR GARMEZY AND ALL MEMBERS
OF THE CLINICAL STAFF

223. ABNORMAL PSYCHOLOGY.—A systematic presentation of the psychology of functional mental disorders with emphasis on its bearing upon general psychological theory. 3 s.h.

PROFESSOR LUNDHOLM

236. THEORETICAL PSYCHOLOGY.—This course is devoted to the analysis of techniques of theory construction in psychology. The discussion of these methodological issues is co-ordinated with the analysis of concrete formulations in contemporary psychological theory. 3 s.h.

PROFESSOR KOCH

242. MEASUREMENT OF APTITUDES, INTEREST, AND ACHIEVEMENT (also listed as Education 242).—A study of the theories and principles of Psychological measurement as applied to aptitude, interest, and achievement testing. 3 s.h.

PROFESSOR KUDER

265. FUNDAMENTAL STATISTICAL PROCEDURES IN PSYCHOLOGY.—An introduction to the topics of distribution functions, large and small sample analyses, analysis of variance and experimental design. Prerequisite: Psychology 120 or equivalent. 3 s.h. [Second semester.]

ASSISTANT PROFESSOR COLLIER

266. ADVANCED STATISTICS OF PSYCHOLOGICAL INVESTIGATION.—A continuation of Psychology 265 with the treatment of the following topics: non-parametric methods, correlation, multiple and partial correlation, and curve fitting. Prerequisite: Psychology 265. 3 s.h. First semester.

ASSISTANT PROFESSOR COLLIER

- 303-304. RESEARCH.—2 or 3 s.h. ALL MEMBERS OF THE GRADUATE STAFF
305. PSYCHOPATHOLOGY.—An examination of behavior disorders, with particular emphasis on explanatory concepts and the evidence from research in this field. 3 s.h. PROFESSOR RODNICK
306. SEMINAR IN DEVELOPMENTAL PSYCHOLOGY.—2 or 3 s.h. PROFESSOR ADAMS
308. SEMINAR IN PSYCHOPATHOLOGY AND PERSONALITY THEORY.—3 s.h. PROFESSOR RODNICK
309. PROBLEMS OF LEARNING.—3 s.h. ASSOCIATE PROFESSOR KIMBLE
310. SEMINAR: SELECTED PROBLEMS IN THE DYNAMICS OF BEHAVIOR.—3 s.h. PROFESSOR ZENER
312. SEMINAR IN THEORETICAL PSYCHOLOGY.—3 s.h. PROFESSOR KOCH
320. SEMINAR IN THE THEORY OF MENTAL TESTS.—3 s.h. PROFESSOR KUDER
322. SEMINAR IN PERSONNEL PSYCHOLOGY.—3 s.h. PROFESSOR KUDER
- 335-336. CLINICAL PSYCHOLOGY PRACTICUM.—Seminar discussion and supervised field experience in the application of basic psychological procedures and principles to clinical cases in a variety of institutional settings. Prerequisite: Psychology 221 and 22. 3 s.h. each semester. ASSOCIATE PROFESSOR COHEN AND ALL MEMBERS OF THE CLINICAL STAFF
341. SOCIETY, CULTURE AND BEHAVIOR DISORDERS.—A critical survey of current theories of the structure and genesis of psychoneurosis, with particular stress on psychoneurotic disturbances as problems of the self in relation to society and culture. 3 s.h. Second semester. PROFESSOR DAI
342. PRINCIPLES OF PSYCHOTHERAPY.—A critical study of the current methods of treating behavior disorders, such as brief psychoanalytic therapy, non-directive methods and group procedures. Stress is laid on integration of the best workable procedures into a set of psychotherapeutic principles in a socio-psychological frame of reference as discussed in Psychology 341, which is a prerequisite: Case material will be used for purposes of illustration. 3 s.h. PROFESSOR DAI
- 344-345. ADVANCED SEMINAR IN CLINICAL PSYCHOLOGY. 1 s.h. each semester. ALL MEMBERS OF CLINICAL STAFF
371. PRE-SCHOOL BEHAVIOR PROBLEMS.—3 s.h. ASSOCIATE PROFESSOR BANHAM

RELATED COURSES IN OTHER DEPARTMENTS

Education 208A, 208B, 209, 217, 227, 228, 240, 241, 244, 248, 258, 318; Philosophy 104, 203, 208, 223, 224, 232, 242, 301, 331-332a; Sociology and Anthropology 212, 238, 243, 246, 249, 271, 276, 330, 380; Zoology, 229, 324, 341, 351-352, 355-356; Physiology 261-262; Anatomy 204.

RELIGION

PROFESSOR SMITH, DIRECTOR OF GRADUATE STUDIES—308 DIVINITY SCHOOL; PROFESSORS BEACH, CLARK, CUSHMAN, DAVIES, PETRY, AND STINESPRING; ASSISTANT PROFESSORS BROWNLEE AND SCHAFER

The Department of Religion offers graduate work leading to the A.M. and Ph.D. degrees. Students may major in one of three fields: (1) Biblical Studies; (2) Studies in Church History; and (3) Studies in Christian Thought. They will be expected to take such courses in one or both of the other fields as will conduce to an adequate understanding of their chosen fields of specialization.

In addition to course work in these major fields, students will take such other courses in cognate fields as will contribute to the enrichment of their major studies. For those majoring in Biblical Studies, courses in ancient language and literature are suggested; for those majoring in Church History, courses in history are sug-

gested; and for those majoring in Studies in Christian Thought, courses in philosophy, political science, and sociology are suggested.

Students who intend to become candidates for the Ph.D. degree should take the required language examinations in both French and German not later than the beginning of the second year of residence.

For 1955-56 the courses planned are 201-202, 207-208, 217, 218, 304, 305, 310, 311, 312, 313, 316, 317, 318, 319, 322, 325, 326, 331, 336, 391, 392, 393, 394, 395, 396, 495, 498.

FIELD I. BIBLICAL STUDIES

201-202. **FIRST HEBREW.**—The principles and structure of the Hebrew language with translation of selected Old Testament narratives. 6 s.h.

PROFESSOR STINESPRING

207-208. **SECOND HEBREW.**—Samuel or Kings the first semester and Isaiah the second. 6 s.h.

ASSISTANT PROFESSOR BROWNLEE

217. **THE NEW TESTAMENT IN GREEK.**—Extensive reading of the Greek text of the New Testament, with special emphasis upon its interpretation. 3 s.h.

PROFESSOR CLARK

218. **GALATIANS AND I CORINTHIANS.**—A detailed study of two of Paul's major epistles, based on the Greek text. 3 s.h.

PROFESSOR DAVIES

220. **I PETER AND THE GOSPEL OF JOHN.**—A detailed study of two of the non-Pauline writings of the New Testament. The course will be based on the Greek text. 3 s.h.

PROFESSOR DAVIES

301. **THE RELIGIOUS THOUGHT OF POST-EXILIC JUDAISM.**—A study of the development of religious ideas in Post-Exilic Judaism. 3 s.h.

ASSISTANT PROFESSOR BROWNLEE

304. **ARAMAIC.**—A study of the Aramaic portions of the Old Testament, and selected passages from the Targums, Midrashes, and Talmuds. Hours to be arranged. 3 s.h.

PROFESSOR STINESPRING

305. **THIRD HEBREW.**—A study of late Hebrew prose, with readings from Chronicles, Ecclesiastes, and the Mishnah. Hours to be arranged. 3 s.h.

PROFESSOR STINESPRING

306. **ADVANCED HEBREW.**—A course on the Dead Sea Scrolls. 3 s.h.

ASSISTANT PROFESSOR BROWNLEE

307. **SYRIAC.**—A study of the script and grammar, with readings from the Syriac New Testament and other early Christian documents. Some knowledge of Hebrew and Aramaic prerequisite. 3 s.h.

PROFESSOR STINESPRING

309. **HISTORY OF THE ANCIENT NEAR EAST.**—A specialized study of the civilizations of Egypt, Palestine, Syria, and Mesopotamia in the light of Biblical archaeology. 3 s.h.

PROFESSOR STINESPRING

310. **OLD TESTAMENT PROPHECY.**—The prophetic movement in Israel with special emphasis on the prophets of the eighth century B.C. 3 s.h.

PROFESSOR STINESPRING

311. **THE LIFE AND TEACHINGS OF JESUS.**—A study of the events and sayings of the historical Jesus, in the light of His mission. 3 s.h.

PROFESSOR CLARK

312. **ADVANCED NEW TESTAMENT THEOLOGY.**—An examination of the central aspects of New Testament theology. 3 s.h.

PROFESSOR DAVIES

313. **THE APOSTOLIC FATHERS.**—A study of the Christian development from Clement of Rome to Polycarp (90-155 A.D.), with readings in the Greek text. 3 s.h.

PROFESSOR CLARK

314. **PATRISTIC THOUGHT.**—A study of the development of early Christian doctrine to the period of Irenaeus. 3 s.h.

PROFESSOR DAVIES

316. **HELLENISTIC RELIGIONS.**—A study of the Gentile religions in the Roman Empire, at the beginning of the Christian era. 3 s.h. PROFESSOR CLARK

317. **THE SYNOPTIC GOSPELS.**—A detailed study of their characteristics and contents, based upon the Greek text, with attention to their respective sources and to the development of synoptic criticism. 3 s.h. PROFESSOR CLARK

318. **TEXTUAL CRITICISM OF THE NEW TESTAMENT.**—A study of the scientific recovery of the Greek text on which modern versions are based; manuscript discoveries; principles of textual criticism; practice in collating original manuscripts in the Duke collection. 3 s.h. PROFESSOR CLARK

319. **JUDAISM AND EARLY CHRISTIANITY.**—A special study of the relation between Judaism and early Christianity. 3 s.h. PROFESSOR DAVIES

RELATED COURSES IN OTHER DEPARTMENTS

Greek 257; Latin 258; Aesthetics, Art, and Music 215, 216.

FIELD II. STUDIES IN CHURCH HISTORY

330. **THE CHURCH IN EUROPE SINCE 1800.**—Emphasis is placed on the relation of the Church to the social, economic, and political life of Modern Europe. 3 s.h. PROFESSOR PETRY

331. **THE SOCIAL MESSAGE OF THE EARLY AND MEDIEVAL CHURCH.**—A study of the social teachings and contributions of the Christian Church prior to the Protestant Reformation. 3 s.h. PROFESSOR PETRY

332. **THE MEDIEVAL CHURCH.**—Outstanding characteristics of the Medieval Church, emphasizing theory, polity, institutions, sacraments, and worship. 3 s.h. PROFESSOR PETRY

334. **CHURCH REFORMERS AND CHRISTIAN UNITY.**—The work of such reformers as Marsilius of Padua, William of Ockham, Jean Gerson, Pierre d'Ailly, and Nicholas of Cusa in relation to ecclesiastical schism and the search for Christian unity through representative councils. 3 s.h. PROFESSOR PETRY

336. **HISTORY OF CHRISTIAN RENUNCIATION IN THE MIDDLE AGES.**—A study of the renunciatory ideal and spiritual practices with special reference to Benedictines, Franciscans, Lowland Mystics, and leading seculars. 3 s.h. PROFESSOR PETRY

RELATED COURSES IN OTHER DEPARTMENTS

History 221-222, 225-226; Ancient Languages and Literatures 257-258.

FIELD III. STUDIES IN CHRISTIAN THOUGHT

224. **CONCEPTIONS OF MAN IN WESTERN THOUGHT.**—An analysis and interpretation of important types of philosophical and theological theory. 3 s.h. PROFESSOR CUSHMAN

321. **PLATONISM AND CHRISTIANITY.**—An analysis of Plato's religious philosophy and a survey of its continuing influence in Hellenistic and Christian thought. 3 s.h. Prerequisite: Permission of the instructor. PROFESSOR CUSHMAN

322. **THEOLOGY AND PHILOSOPHY IN THE NINETEENTH CENTURY.**—Protestant thought from Schleiermacher to Troeltsch together with representative theologians of Britain. 3 s.h. PROFESSOR CUSHMAN

323. **HISTORY OF CHRISTIAN THOUGHT I.**—An historical study of theology in the ancient and medieval church. 3 s.h. ASSISTANT PROFESSOR SCHAFER

324. **HISTORY OF CHRISTIAN THOUGHT II.**—An historical study of theology from the Reformation. 3 s.h. ASSISTANT PROFESSOR SCHAFER

325. **PHILOSOPHICAL THEOLOGY I.**—Constructive approach to the problem of faith and reason. 3 s.h. PROFESSOR CUSHMAN

326. **PHILOSOPHICAL THEOLOGY II.**—Main problems in the history of philosophical theology. 3 s.h. PROFESSOR CUSHMAN

328. SEMINAR IN TWENTIETH CENTURY CONTINENTAL AND BRITISH THEOLOGY.—Critical examination of the thought of Barth, Brunner, Berdyaev, Maritain, F. R. Tennant, and William Temple. 3 s.h. PROFESSOR CUSHMAN

391. HISTORICAL TYPES OF CHRISTIAN ETHICS I.—A critical study of representative statements of Christian ethical theory, through the early Reformation. Prerequisite: C.E. 27 or its equivalent. 3 s.h. MR. BEACH

392. HISTORICAL TYPES OF CHRISTIAN ETHICS II.—A continuation of C.E. 391, from the Reformation through current Christian ethical theory. Prerequisite: C.E. 391. 3 s.h. MR. BEACH

393. THE CHRISTIAN INTERPRETATION OF HISTORY.—A comparative examination of the chief secular and Christian theories of history current in Western thought. 3 s.h. PROFESSOR BEACH

394. CHRISTIANITY AND THE STATE.—The relation of the Christian theory of the State to political problems, with special consideration of the religious assumptions underlying democratic theory and practice and of the relationship of church to state. 3 s.h. PROFESSOR BEACH

395. RELIGIOUS THOUGHT IN COLONIAL AMERICA.—Consideration of the principal types of Protestant thought in colonial culture. 3 s.h. PROFESSOR SMITH

396. AMERICAN RELIGIOUS THOUGHT IN THE NINETEENTH CENTURY.—Comparative exposition of Orthodoxy and Liberalism. 3 s.h. PROFESSOR SMITH

397. CURRENT AMERICAN THEOLOGY.—Critical appraisal of conflicting tendencies in American theological thought. 3 s.h. PROFESSOR SMITH

398. MODERN AMERICAN CHRISTOLOGY.—An analysis of the historical development of modern American conceptions of the person and work of Christ. 3 s.h. PROFESSOR SMITH

495. SEMINAR: JONATHAN EDWARDS AND JOHN WESLEY.—A comparative study of the major theological works of Edwards and Wesley. 2 s.h. PROFESSOR SMITH

498. SEMINAR: THEOLOGY OF PAUL TILLICH.—An examination of Tillich's philosophical theology. 2 s.h. PROFESSOR SMITH

RELATED COURSES IN OTHER DEPARTMENTS

Political Science 229, 231.

OTHER COURSES

Certain other courses listed in this bulletin and the *Bulletin of the Divinity School* may be taken for graduate credit provided that at the time of registration they are approved by the Director of Graduate Studies in Religion and by the Dean of the Graduate School.

ROMANCE LANGUAGES

PROFESSOR JORDAN, CHAIRMAN—214 CARR; PROFESSOR WALTON, DIRECTOR OF GRADUATE STUDIES—207 GRAY; PROFESSORS DAVIS AND PREDMORE; ASSOCIATE PROFESSORS CASTELLANO AND DEMOREST

The Department of Romance Languages offers graduate work leading to the A.M. and Ph.D. degrees. In order to undertake graduate study in this Department, the student should normally have credit for four years of college courses in the chosen language, or 18 semester hours beyond the conventional two units offered at entrance to college. In addition to this minimum requirement, the student should have had one semester of review in composition and grammar.

It is recommended that candidates for the A.M. degree take a second Romance Language as the minor subject.

A candidate for the Ph.D. degree should be equipped to follow graduate courses

in a second Romance Language. For this degree some training in Romance Linguistics will be required, the amount to be determined by the Department upon consideration of the student's preparation in the field.

Graduate students in this Department will be required to maintain oral practice in their major language through non-credit exercises provided by the Department.

For 1954-55 there will be offered throughout the year at least three courses in each language.

FRENCH

FOR SENIORS AND GRADUATES

210. **THE AGE OF RICHELIEU.**—An introduction to French life and thought in the literature of the early seventeenth century. The transition from the Renaissance to classical culture. Discussions of the baroque, the *Libertins*, the scientific rationalists, the Counter Reformation. Extensive reading in Corneille and Pascal. Lectures in French. 3 s.h.

ASSOCIATE PROFESSOR DEMOREST

213. **FRENCH CLASSICISM.**—Its initial phase. Readings from Malherbe, Molière, Racine, Boileau, La Fontaine, La Rochefoucauld, Madame de Sévigné, La Bruyère, and others. 3 s.h.

PROFESSOR WALTON

214. **FRENCH CLASSICISM.**—Its final phase. Readings from Fontenelle, Saint-Simon, Abbé Prévost, Marivaux, Lesage, Montesquieu, Voltaire, and others. Main emphasis on Voltaire. 3 s.h.

PROFESSOR WALTON

215, 216. **THE MODERN FRENCH NOVEL.**—A survey of the novel form from the seventeenth to the twentieth century, with particular attention to the analysis of fundamental literary trends; classicism, rationalism, romanticism, and realism. 6 s.h.

PROFESSOR JORDAN

225. **POLITICAL AND RELIGIOUS LITERATURE IN THE ROMANTIC PERIOD.**—The Romantic outlook as it shapes political and religious literature from the Consulate to the Revolution of 1848. The mystics of conservatism, the prophets of a Romantic faith, and the heralds of a social republic. Lectures in French. 3 s.h.

ASSOCIATE PROFESSOR DEMOREST

227. **FRENCH POETRY SINCE THÉOPHILE GAUTIER.**—Readings from the principal figures of the Parnassian and Symbolist movements, including Baudelaire, Leconte de Lisle, Heredia, Verlaine, Rimbaud, Mallarmé and Régnier. 3 s.h.

PROFESSOR WALTON

238. **ANATOLE FRANCE.**—Analysis of the principal phases of his work and its relation to the French tradition. Reading of his poetry. *Le Crime de Sylvestre Bonnard*, *Thais*, *Le Jardin d'Épicure*, *Les Dieux ont Soif*, *Le Lys Rouge*, *L'Île des Pingouins*, parts of *La Vie Littéraire*. 3 s.h.

PROFESSOR WALTON

FOR GRADUATES

323, 324. **REALISM AND NATURALISM.**—Literary doctrines and practices in the generation of 1850-90, with particular reference to the background of scientific thinking. 6 s.h.

PROFESSOR JORDAN

325, 326. **FRENCH LITERATURE IN THE SIXTEENTH CENTURY.**—Main attention is given to Rabelais, Montaigne, Marot, Ronsard, Du Bellay. Principal movements treated are: Humanism, Hellenism, Platonism, Petrarchism, the *Pléiade*. 6 s.h.

PROFESSOR WALTON

333, 334. **CONTEMPORARY FRENCH LITERATURE.**—The twentieth century is examined mainly with reference to the originality of its contribution in the domain of ideas and literary forms. Only the leading figures are read extensively: Rolland, Gide, Proust, Duhamel, Valéry. 6 s.h.

PROFESSOR JORDAN

350. **NINETEENTH-CENTURY FRENCH CRITICISM.**—A survey of critical doctrines and practices from Sainte-Beuve to the end of the century, including Brunetière, Faguet, Lemaître, France, Doumic and others. 3 s.h.

PROFESSOR JORDAN

SPANISH

FOR SENIORS AND GRADUATES

257. OLD SPANISH LANGUAGE.—The historical development of the language together with illustrative readings. 3 s.h. PROFESSOR DAVIS

258. OLD SPANISH LITERATURE.—The literature of the Middle Ages and Early Renaissance. 3 s.h. PROFESSOR DAVIS

260. ADVANCED COMPOSITION AND SYNTAX.—Study of fundamental difficulties in the language; practice in writing idiomatic Spanish; exercises in free composition. For students who have a satisfactory command of Spanish grammar and fair conversational ability. Prerequisite: Spanish 173-174 or permission. 3 s.h. ASSOCIATE PROFESSOR CASTELLANO

261. NINETEENTH CENTURY NOVEL.—A study of literary and social trends in the last half of the nineteenth century. Readings will be selected from the novels of Valera, Pereda, Galdós, Pardo, Bazán, Blasco Ibáñez, and their contemporaries. 3 s.h. PROFESSOR DAVIS

264. MODERN AND CONTEMPORARY SPANISH THEATER.—A brief review of the modern and contemporary Spanish Theater from the period of Romanticism. Lectures, reading and discussion of the most representative works of Benavente, Martínez Sierra, los hermanos Quintero, etc. 3 s.h. ASSOCIATE PROFESSOR CASTELLANO

265. GOLDEN AGE LITERATURE: CERVANTES.—The life and thought of Cervantes with special emphasis on his *Quijote*. 3 s.h. PROFESSOR PREDMORE

266. GOLDEN AGE LITERATURE: THE DRAMA.—Study of the chief Spanish dramatists of the seventeenth century with readings of representative plays of this period. 3 s.h. ASSOCIATE PROFESSOR CASTELLANO

270. THE SPANISH LANGUAGE IN AMERICA.—Development of the Spanish language from the time of the Discovery to the present. 3 s.h. PROFESSOR PREDMORE

275. CONTEMPORARY SPANISH LITERATURE.—Essay and Lyric Poetry. A study of the revision of national values and literary expression in the twentieth century with particular reference to the crisis of 1898 and to the enrichment of the Spanish tradition through extra-peninsular influences. 3 s.h. PROFESSOR PREDMORE

276. CONTEMPORARY SPANISH LITERATURE.—Novel. A study of tradition and innovation in the twentieth century Spanish novel with emphasis on the novels of Unamuno, Baroja, Valle Inclán, and Pérez de Ayala. 3 s.h. PROFESSOR PREDMORE

SOCIOLOGY AND ANTHROPOLOGY

PROFESSOR JENSEN, CHAIRMAN—215E SOCIAL SCIENCE BUILDING; PROFESSOR HART, DIRECTOR OF GRADUATE STUDIES—215D SOCIAL SCIENCE BUILDING; PROFESSOR THOMPSON; ASSOCIATE PROFESSORS LABARRE AND SCHETTLER; ASSISTANT PROFESSOR ROY

The Department of Sociology and Anthropology offers graduate work leading to the A.M. and Ph.D. degrees. Before undertaking advanced work in this department, a student must have completed a minimum of twelve semester hours of approved preliminary courses in the field, and twelve additional semester hours in the field or in related work. A student who is deficient in the minimum required work will be asked to take additional undergraduate courses agreed upon in conference with the Director of Graduate Studies.

Candidates for advanced degrees in sociology usually take minor work in psychology, economics, political science, education, history, or religion. Detailed requirements for the minor work, and for majors in other departments who wish to present sociology as minor work, may be obtained from the Director of Graduate Studies.

The courses planned for 1955-56 are 212, 213, 214, 217, 233, 235, 237, 238, 243,

246, 250, 261, 271, 273, 276, 286, 292, 293, 330, 340, 380, 381, 382, 391. Either 91-92, 93 or 94, or 101 is prerequisite for all courses.

ANTHROPOLOGY

212. PRIMITIVE RELIGION.—The ethnography, the social functions and the socio-psychological meanings of religion in primitive societies. 3 s.h.

ASSOCIATE PROFESSOR LABARRE

213. PERSONALITY AND SOCIETY.—The sociology and social psychology of human personality, its origins in the primary group, its nature and varieties and its integrations into secondary group institutions. 3 s.h.

ASSOCIATE PROFESSOR LABARRE

214. PERSONALITY AND CULTURE.—The influence of culture patterns and social institutions upon character structure, socialization of the individual, and the dynamics of human personality. Comparative anthropological materials will be drawn upon. Prerequisite: course 213. 3 s.h.
(Admission to 213 and 214 only by consultation with the instructor.)

ASSOCIATE PROFESSOR LABARRE

215. THE AMERICAN INDIAN.—A comprehensive survey of the Indians of North and South America, including a study of origins and prehistory, archaeology, physical anthropology, languages, material culture, social and political organization, economics and religion, discussed in terms of the "culture area" concept, and illustrated with the ethnography of a characteristic tribe from each area. 3 s.h.

ASSOCIATE PROFESSOR LABARRE

217. THE PEOPLES OF AFRICA, ASIA, AND OCEANIA.—A comprehensive survey of the non-European peoples of the Old World, covering available pre-history, archaeology, racial affiliations, languages, material culture, social and political organization, economics, and religion, discussed in terms of the "culture area" concept, and illustrated with the ethnography of a characteristic tribe from each area. 3 s.h.

ASSOCIATE PROFESSOR LABARRE

330. SEMINAR IN ANTHROPOLOGY.—A seminar for advanced students who wish to pursue individual studies in racial or cultural anthropology. 1 to 3 s.h. *each semester.*

ASSOCIATE PROFESSOR LABARRE

COMMUNITY, RACE AND CULTURE

223. RURAL SOCIOLOGY.—The sociology of the land; peasant and folk societies and cultures; patterns of rural settlement like the farm, the plantation, the ranch and others; rural personality types; the changing character of rural life; rural problems. 3 s.h. Second semester.

PROFESSOR THOMPSON

225. URBAN SOCIOLOGY.—A study of the city and civilization, the newspaper, the social survey, the slum and housing, neighborhoods and natural areas, urban institutions, urban problems, and city planning. 3 s.h.

PROFESSOR THOMPSON

227. COMMUNITY AND SOCIETY.—This course seeks to provide a frame of reference for the analysis and ordering of facts pertaining to the diverse cultures of the world, the State, the world community, the Great Society, news, mass behavior, social problems, races and classes. 3 s.h.

PROFESSOR THOMPSON

228. RACE AND CULTURE.—A study of the nature of race and of the relationships and problems of race. 3 s.h.

PROFESSOR THOMPSON

340. SEMINAR.—Methodological problems involved in the study of race relations, urban and rural life, the South and society generally. 3 s.h. *each semester.*

PROFESSOR THOMPSON

COLLECTIVE BEHAVIOR

243. SOCIAL ATTITUDES AND COLLECTIVE BEHAVIOR.—Study of attitudes as products of social interaction; organization of attitudes into personal behavior patterns; expression of social attitudes in social, political and industrial groups; social unrest and the behavior of crowds and mobs; analysis of social movements, strikes, revolutions, and other group organizations. 3 s.h.

ASSOCIATE PROFESSOR SCHETTLER

246. PUBLIC OPINION AND PROPAGANDA.—Nature and development of public opinion; relation to attitudes, biases, stereotypes and controversial issues; role of leaders, pressure groups and minority groups; use of radio, press, motion picture and graphic arts; propaganda and censorship; measurements of public opinion. 3 s.h.
ASSOCIATE PROFESSOR SCHETTLER

250. MARRIAGE AND THE FAMILY.—An analysis of contemporary marriage and family experience with emphasis on its functions, problems, resources and values. Not open to students who have received credit for Religion 170. 3 s.h.

PROFESSOR HART

SOCIAL ORGANIZATION AND DISORGANIZATION

261. PROBLEMS IN INDUSTRIAL SOCIOLOGY.—Sociological analysis of human relations problems that confront administrators of industrial institutions and leaders in industrial community life. In this course emphasis falls on the examination of concrete case materials and the appraisal of published research with consideration of possibilities for further development of scientific procedures in the field of industrial sociology. 3 s.h.
ASSISTANT PROFESSOR ROY

271. SOCIAL PATHOLOGY.—A study of the causes, extent, significance, and constructive treatment of the principal forms of pathology in modern society; natural disasters, poverty, physical defectiveness, malnutrition, mental deficiency, mental disease, undirected leisure activities and unstandardized commercial recreation, alcoholism, prostitution, vagrancy, and delinquency. (Not open to students who have had Sociology S274.) 3 s.h.
PROFESSOR JENSEN

273. SPECIAL PROBLEMS IN SOCIAL PATHOLOGY.—Research projects in social and personal disorganization, limited to advanced students with the approval of the instructor. 1 to 3 s.h. *each semester*.
PROFESSOR JENSEN

276. CRIMINOLOGY.—A study of the original tendencies of man and the problem of socializing these tendencies; the relation of physical and mental defectiveness and untoward influence in the home and neighborhood to crime; the development of criminological theory and procedure, emphasizing penal and reform methods, and especially modern methods of social treatment and prevention of crime. 3 s.h.
PROFESSOR JENSEN

380. SEMINAR IN APPLIED SOCIOLOGY.—Special research problems in social pathology, child welfare, criminology, and related topics. 1 to 3 s.h. *each semester*.
PROFESSOR JENSEN

SOCIAL THEORY

286. SOCIAL ETHICS.—A study of sociological fundamentals underlying ethics, including the controversy between materialistic and idealistic social thinkers, the nature of personalities and of social organization, the nature of social values, types of social interaction and their effects upon general social values, underlying principles and facts of social change, and the bearings of all these upon certain social problems. 3 s.h.
PROFESSOR HART

288. CONTEMPORARY PROBLEMS IN CULTURAL LAG.—An exploration of such sociological problems as social evolution, cultural lag, conflict, accommodation, leadership, and social reform, in relation to the crisis of civilization precipitated by the development of the atomic bomb and by kindred discoveries and inventions. 3 s.h.
PROFESSOR HART

381. PRINCIPLES OF SOCIOLOGY.—A critical study of sociological theory. The sociological theories of recent writers will be critically examined with a view to laying the foundation for a constructive theory of the social life in modern biology and psychology. Discussions and papers by the class. 3 s.h.

PROFESSOR JENSEN

382. HISTORY OF SOCIOLOGICAL THEORY.—Lectures on the development of social thought from Aristotle to the present; the social philosophies of Plato, Aristotle, St. Augustine, Thomas Aquinas, Machiavelli, Bodin, Hobbes, Locke, Vico, Montesquieu, Rousseau, Condorcet, and the sociological systems of Comte, Spencer,

Schäffle, Lilienfeld, Gumpłowicz, Ratzenhofer, and Ward will, among others, be considered. A large amount of assigned reading will be required in this course. The student is advised to correlate this course with related courses in economics, history, political science, and philosophy. 3 s.h. PROFESSOR JENSEN

METHODS OF SOCIAL RESEARCH

292. STATISTICAL TECHNIQUES IN SOCIOLOGY.—Intended for graduate students, and for undergraduates who are ready to undertake original statistical research projects. 3 s.h. (*first semester*.) PROFESSOR HART

293. SPECIAL PROBLEMS IN SOCIAL STATISTICS.—Applications of statistical techniques to specific research topics; limited to advanced students with permission of the instructor. 1 to 3 s.h. PROFESSOR HART

391. SEMINAR IN SOCIAL STATISTICS.—Special research problems in social statistics, social ethics, the family or related topics. 1 to 3 s.h. PROFESSOR HART

393. OPERATIONAL SOCIOLOGY.—A seminar for advanced students, presenting an operational philosophy of social science as a basis for research in sociology. Examples of operational procedure will be analyzed. Assigned projects will embody applications of the operational method. Prerequisite: one of the following: Sociology 292 or Economics 237-238, or Education 209, or Mathematics 124, or some other acceptable course in statistics. 3 s.h. PROFESSOR HART

RELATED COURSES IN OTHER DEPARTMENTS

Economics 215, 216, 217; Philosophy 205; Political Science 223, 224; Psychology 206.

ZOOLOGY

PROFESSOR GRAY, CHAIRMAN—217 BIOLOGY BUILDING; PROFESSOR WILBUR, DIRECTOR OF GRADUATE STUDIES—328 BIOLOGY BUILDING; PROFESSORS SCHMIDT-NIELSEN AND BOOKHOUT; ASSOCIATE PROFESSORS HUNTER AND ROBERTS; ASSISTANT PROFESSORS BAILEY, HORN, NACE, AND ODUM

To undertake study toward an advanced degree in zoology a student should have completed an undergraduate major in zoology or its equivalent. This normally amounts to twenty-four or more hours of course work distributed among various fields of zoology, and must include comparative vertebrate anatomy or vertebrate zoology, embryology, and physiology. At least a year of chemistry is required. Physics is recommended. Candidates for the doctorate will be expected to have had not less than two years of chemistry and a year of botany. For some phases of zoology, organic chemistry is essential.

Required work for the A.M. ordinarily includes 18 semester hours of advanced course work in zoology, six semester hours of course work in a minor department, and an acceptable thesis.

Candidates for the Ph.D. degree are expected to be broadly trained zoologists. The program of each candidate is determined by a committee which reviews previous training and sets specific requirements to be met. Normally the program includes one or more graduate courses in each of several fields of zoology; courses in a minor subject; wide reading in science in general and in biology in particular; research; and a dissertation based on original work. A first draft of the thesis must be submitted to the major professor by March 15 of the year in which the degree is to be conferred.

For 1955-56 the courses planned are 222, 224, 253, 271, 274, 303, 307, 324, 328, 351-352, 353-354, 355-356.

FOR SENIORS AND GRADUATES

204. ADVANCED PARASITOLOGY.—Lectures, conferences, readings, and laboratory work dealing with practical and theoretical problems of classification, morphology, and host relations of animal parasites. Prerequisite: Zoology 161. 4 s.h. ASSOCIATE PROFESSOR HUNTER

216. LIMNOLOGY.—A study of lakes, streams, and ponds including their classifications, photosynthetic productivity, geochemistry, physical patterns, pollution, fisheries, and significance as microcosms. Lectures, field trips, laboratory work. Prerequisites: Chemistry 1 and 2, one year of biology. 4 s.h.

ASSISTANT PROFESSOR ODUM

222. ENTOMOLOGY.—Anatomy, physiology, embryology, and classification of insects. Prerequisite: one year of zoology. 4 s.h.

PROFESSOR GRAY

224. VERTEBRATE ZOOLOGY.—A study of the life histories, adaptations, ecology, and classification of vertebrate animals. Prerequisite: Zoology 53. 4 s.h.

PROFESSOR GRAY

238. SYSTEMATIC ZOOLOGY.—The fundamental theory and practice involved in the collection, identification and classification of animals. Prerequisite: Zoology 1 and 2. 4 s.h.

ASSISTANT PROFESSOR BAILEY

252. COMPARATIVE PHYSIOLOGY.—The physiological mechanisms of animals studied on a comparative basis. Prerequisite: Zoology 151 or equivalent. 4 s.h.

PROFESSOR SCHMIDT-NIELSEN

253. ADVANCED VERTEBRATE MORPHOLOGY.—Lectures, reports and reading assignments in the comparative morphology of the vertebrates, with particular emphasis on theories concerning the interrelationships of vertebrates, and the origin of certain vertebrate structures. Advanced laboratory study in selected groups of vertebrates. Prerequisites: Zoology 53, 92. 4 s.h.

ASSISTANT PROFESSOR HORN

271. CELLULAR PHYSIOLOGY.—The physiological processes of living matter approached through studies of cells. Prerequisites: two years of biology and at least one year of chemistry. 4 s.h.

PROFESSOR WILBUR

274. INVERTEBRATE ZOOLOGY.—A study of structure, functions, and habits of invertebrate animals under normal and experimental conditions. Field trips will be made to study, collect, and classify animals in their natural habitats. Prerequisites: Zoology 1 and 2. 4 s.h.

PROFESSOR BOOKHOUT

276. PROTOZOOLOGY.—The morphology, physiology, taxonomy, and culture of protozoa. Prerequisites: Zoology 1 and 2. 4 s.h.

PROFESSOR BOOKHOUT

278. INVERTEBRATE EMBRYOLOGY.—Lectures, readings and laboratory work dealing with rearing, development and life history of invertebrates. Prerequisite: Zoology 92. 4 s.h.

PROFESSOR BOOKHOUT

FOR GRADUATES

303. ECOLOGY.—Relation of animals to environment. Lectures, readings, reports, conferences; laboratory and field work. 4 s.h.

PROFESSOR GRAY

307. FOUNDATIONS OF ZOOLOGY.—Lectures, readings, and discussions on the background and training essential for a professional zoologist. 2 s.h.

ALL MEMBERS OF THE GRADUATE STAFF

324. ADVANCED PHYSIOLOGY.—Recent advances in physiology. Lectures, conferences and laboratory work. Prerequisite: Zoology 252 or 271. 4 s.h.

PROFESSORS SCHMIDT-NIELSEN AND WILBUR

328. EXPERIMENTAL EMBRYOLOGY.—Lectures, readings, reports and laboratory work. Prerequisites: Zoology 53, 92, 156, 271, or equivalent. 4 s.h.

ASSISTANT PROFESSOR NACE

343. CYTOLOGY.—The structure of the cell. Lectures, readings, reports and laboratory work. Prerequisites: Zoology 53, 92, 156, or equivalent. 4 s.h.

ASSOCIATE PROFESSOR ROBERTS

351, 352. ZOOLOGICAL JOURNAL CLUB.—A weekly meeting of graduate students and faculty to hear reports and to discuss biological facts, theories, and problems. One hour a week throughout the year. 1 s.h.

ALL MEMBERS OF THE GRADUATE STAFF

353, 354. RESEARCH.—Students who have had proper training may carry on research under direction of members of the Staff in the following fields. Hours and credits to be arranged.

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| (a) EMBRYOLOGY. | ASSISTANT PROFESSOR NAGE |
| (b) PHYSIOLOGY. | PROFESSORS SCHMIDT-NIELSEN AND WILBUR |
| (c) HISTOLOGY, CYTOLOGY. | ASSOCIATE PROFESSOR ROBERTS |
| (d) INVERTEBRATE ZOOLOGY, INVERTEBRATE HISTOLOGY AND EMBRYOLOGY. | PROFESSOR BOOKHOUT |
| (e) ECOLOGY, ENTOMOLOGY, VERTEBRATE ZOOLOGY. | PROFESSOR GRAY |
| (f) VERTEBRATE MORPHOLOGY AND MORPHOGENESIS. | ASSISTANT PROFESSOR HORN |
| (g) PARASITOLOGY. | ASSOCIATE PROFESSOR HUNTER |
| (h) VERTEBRATE ZOOLOGY. | ASSISTANT PROFESSOR BAILEY |
| (i) LIMNOLOGY. | ASSISTANT PROFESSOR ODUM |

355, 356. SEMINAR.—One or more seminar courses in particular fields are given by various members of the staff. These will be in the fields indicated under courses 353-354 above. 2 s.h.

GRADUATE CREDIT FOR COURSES TAKEN IN THE SCHOOL OF LAW

Upon the recommendation of the Director of Graduate Studies, and upon the approval of the Dean of the Graduate School, students in the Social Sciences may take certain courses in the School of Law for graduate credit. In exceptional instances courses in the School of Law may be considered as fulfilling a student's requirements for a minor.

COURSES IN THE MEDICAL SCHOOL OPEN TO GRADUATE STUDENTS

PROFESSORS BEARD, F. BERNHEIM, CONANT, EADIE, EVERETT, HALL, HANDLER, HETHERINGTON, MARKEE, D. T. SMITH, AND TAYLOR; ASSOCIATE PROFESSORS BECKER, M. L. C. BERNHEIM, DUKE, KORKES, PEELE, PENROD, RUNDLES, AND SCHWERT
AND ASSISTANT PROFESSOR HULL

The facilities of the several Departments of the Medical School listed below are available to qualified graduate students, already admitted to the Graduate School, for independent or supervised research and investigation, whether or not they are working toward advanced degrees.

Graduate students wishing to pursue a major or minor in any of the following departments, or to enroll in any of the courses listed below, should consult or write the appropriate Director of Graduate Studies: Anatomy, Professor J. E. Markee; Microbiology, including Mycology, Parasitology and Hematology, Professor D. T. Smith; Biochemistry and Nutrition, Professor Philip Handler; Physiology and Pharmacology, Professor F. G. Hall.

Because of the special schedules maintained in the Medical School, graduate students should write the Director of Graduate Studies of the department in which they are interested to ascertain the precise dates when courses are offered.

ANATOMY

Completion of training equivalent to that required of an undergraduate majoring in biology or zoology is prerequisite for these courses in human anatomy.

M201. GROSS HUMAN ANATOMY.—A course especially designed for graduate students, comprising a complete dissection of the cadaver. The laboratory work is

supplemented by conferences which place emphasis on the biological aspects of the subject. Oct.-Feb. Hours and credits (maximum 8 s.h.) by arrangement. Prerequisite: adequate training in comparative anatomy and embryology.

PROFESSORS MARKEE AND EVERETT; ASSOCIATE
PROFESSORS BECKER AND DUKE

M202. MICROSCOPIC ANATOMY.—Conferences and laboratory work on the morphological characteristics of the tissues of the animal body. The work is based upon a study of fresh and prepared material and is approached from the physiological viewpoint. Oct.-Feb. Hours and credits (maximum 3 s.h.) by arrangement. Prerequisite: adequate training in histology or cytology.

PROFESSORS MARKEE, HETHERINGTON, AND EVERETT;
ASSOCIATE PROFESSORS BECKER AND DUKE

M203. ANATOMY OF THE NERVOUS SYSTEM.—A study of the gross and microscopic structure of the human central nervous system, special attention being paid to the structural and functional relationships between the various nuclei and fiber tracts. Oct.-Feb. Hours and credits (maximum 4 s.h.) by arrangement. Prerequisite: Anatomy M201.

PROFESSORS MARKEE AND EVERETT; ASSOCIATE
PROFESSORS PEELE, BECKER, AND DUKE

M204. NEUROANATOMICAL BASIS OF BEHAVIOR.—A study of the gross and microscopic anatomy of the nervous system with emphasis on the structural and functional relationships between tracts, nuclei, and cortical areas. Insofar as possible the result of deficit in a system or systems will be demonstrated by motion picture aids, and the mechanisms involved will be reviewed and discussed. Restricted to graduate students with the equivalent of a major in psychology. 3 s.h.

PROFESSOR HETHERINGTON

M312. RESEARCH.—Individual investigations in the various fields of anatomy. Credits to be arranged.

PROFESSORS MARKEE, EVERETT, HETHERINGTON;
ASSOCIATE PROFESSORS PEELE, DUKE, AND BECKER

BIOCHEMISTRY AND NUTRITION

The program of graduate studies in biochemistry is designed primarily for Ph.D. candidates who intend to pursue a research career in this field. Candidates for the A.M. degree only are not encouraged to apply for admission and are accepted only under exceptional conditions. Preference is given to students who have completed one year of graduate work in chemistry, physics, or biology at Duke University or at some other approved institution. As preparation for courses in advanced chemistry, the student must have completed college courses in analytical geometry and elementary calculus. He also must have had adequate preparation for the reading examination in French and German, which is required of candidates for the Ph.D. degree.

M241. GENERAL BIOCHEMISTRY AND NUTRITION.—Three lectures, four laboratory periods of three hours each, one two-hour seminar weekly for eighteen weeks. Prerequisites: general chemistry, organic chemistry, physical and analytical chemistry, and at least one year of college biology. Feb.-June. 8 s.h.; without laboratory work, 3 s.h.

PROFESSORS HANDLER AND TAYLOR; ASSOCIATE PROFESSORS
M. L. C. BERNHEIM, SCHWERT, KORKE, AND DR. KAMIN

M242. BIOCHEMICAL PREPARATIONS.—Laboratory work with conferences when necessary. This course involves detailed study of the chemistry of enzymes, proteins, fats, carbohydrates and derivatives. Prerequisite: Biochemistry M241 or its equivalent. Hours by arrangement. 2, 3, or 4 s.h.

PROFESSOR HANDLER; ASSOCIATE PROFESSORS M. L. C.
BERNHEIM, KORKE, AND SCHWERT

M243-244. GENERAL BIOCHEMISTRY.—An introductory but intensive course in the broader aspects of biochemistry. Topics stressed include the chemistry of naturally occurring materials, nature of enzyme action, intermediary metabolism and chemical aspects of the specialized behavior of mammals, plants and micro-

organisms. Prerequisites: organic chemistry and at least one year of college biology. 6 s.h.

PROFESSOR HANDLER; ASSOCIATE PROFESSORS
KORKES AND SCHWERT

M341. THEORIES AND METHODS OF PHYSICAL BIOCHEMISTRY.—A lecture and seminar course on basic physical concepts and experimental methods in the study of biological compounds and systems. With demonstrations. Given alternately with M343-344. 2 s.h.

ASSOCIATE PROFESSOR SCHWERT

M343-344. BIOCHEMISTRY OF PROTEINS AND ENZYMES.—A lecture and seminar course devoted to the chemical, physical and biological properties of proteins and enzymes. In the first semester, general aspects of protein chemistry will be considered; in the second semester specific proteins and enzyme systems will be reviewed. Given alternately with M341. 4 s.h.

ASSOCIATE PROFESSOR SCHWERT

M345-346. SEMINAR.—Required of all graduate students majoring in biochemistry, one hour per week. 2 s.h.

PROFESSOR HANDLER; ASSOCIATE PROFESSORS
M. L. C. BERNHEIM, SCHWERT, AND KORKES

M347-348. BIOCHEMICAL RESEARCH.—A laboratory course in which the students are introduced to specialized concepts and methods currently employed in biochemical research. This will be accomplished by rotating assignment of the students to the various special laboratories of the department. Prerequisite: Biochemistry M241 or its equivalent. 2, 3, or 4 s.h.

PROFESSOR HANDLER; ASSOCIATE PROFESSORS
M. L. C. BERNHEIM, SCHWERT, AND KORKES

M349-350. INTERMEDIARY METABOLISM.—A seminar course devoted to a study of the detailed mechanisms of carbohydrate, fat and protein metabolism. Given alternately with Biochemistry M351-352. Prerequisite: Biochemistry M241 or its equivalent. 4 s.h.

PROFESSOR HANDLER

M351. NUTRITION.—A seminar course in which the chemical and physiological behavior of essential nutritional factors is considered, as well as the nature of deficiency states. Prerequisite: Biochemistry M241 or its equivalent. Given alternately with Biochemistry M349-350. 2 s.h.

PROFESSOR HANDLER

M354. BIOCHEMISTRY OF DISEASE.—A lecture and seminar course in the biochemical aspects of the pathogenesis, diagnosis, and therapy of diseases of metabolism. 2 s.h.

PROFESSOR HANDLER

MICROBIOLOGY

M221. BACTERIOLOGY AND IMMUNOLOGY.—This course is devoted primarily to the study of the biological and immunological relationships of microorganisms (bacteria, fungi, Rickettsia, and viruses) in disease. It is not a course in bacteriologic technique. An additional course in technical methods is provided for those who require it. Five lectures, two 1-hour conferences and three laboratory periods of 3 hours each weekly, in fall quarter. Prerequisites: courses in general zoology, general botany, histology and comparative anatomy, general and organic chemistry. 6 s.h.

PROFESSOR D. T. SMITH AND ALL
MEMBERS OF THE GRADUATE STAFF

M323. ADVANCED BACTERIOLOGY AND IMMUNOLOGY.—This course is intended primarily for graduate students majoring in bacteriology, but it is also available as a minor to other graduate students in related fields, to whom it is recommended by respective supervising committees and with the approval of the Department of Bacteriology. Prerequisites: Bacteriology and Immunology, M221. 8 s.h.

PROFESSOR D. T. SMITH

M324. RESEARCH SEMINAR ON VIRUSES.—Limited to advanced students. 2 s.h. per semester.

PROFESSOR BEARD

M325. MEDICAL MYCOLOGY.—This course is intended to familiarize the graduate student majoring in mycology with the fungi causing disease in man and animals. The course includes practical laboratory work with materials from patients

in Duke Hospital and those sent to the Duke Fungus Registry from outside sources. Prerequisites: A.M. in botany with major in mycology and M221. Course limited to four students each year. 8 s.h. PROFESSOR CONANT

HEMATOLOGY

M211. Three lectures and three laboratory periods of 3 hours each, weekly, for eleven weeks in the spring quarter. Prerequisites: courses in general zoology, general botany, histology and comparative anatomy. 4 s.h. ASSOCIATE PROFESSOR RUNDLES

MEDICAL PARASITOLOGY

M291. MEDICAL PARASITOLOGY.—One lecture and one three-hour laboratory period per week for eleven weeks during the fall quarter. Prerequisites: courses in Zoology 204, general botany, histology and comparative anatomy. 1 s.h.

PHYSIOLOGY AND PHARMACOLOGY

M261-262. HUMAN PHYSIOLOGY.—Six lectures and twenty laboratory hours per week. Prerequisites: Anatomy M201 and Biochemistry M241 (or equivalents) and at least one year of college physics. Feb.-June. Credits depending on work taken. (Maximum 8 s.h.) PROFESSOR HALL AND ALL MEMBERS OF THE GRADUATE STAFF

M365. RESPIRATION AND AERO-PHYSIOLOGY.—A study of the fundamental respiratory processes in living organisms, and of the special physiological responses and adjustments of the individual during high altitude flight. Lectures, conferences, laboratory. Prerequisites: M261-262 or equivalent. 4 s.h. PROFESSOR HALL

M369. PHARMACOLOGY. MODE OF ACTION OF DRUGS.—Studies and discussions of the pharmacological action of drugs in terms of biochemical and physiological processes. Lectures, conferences, and laboratory. Prerequisites: M261-262 or equivalent. 4 s.h. PROFESSOR F. BERNHEIM

M370. SEMINAR.—A weekly meeting of graduate students and staff in which papers reviewing classical and current physiological literature are reported. Required of all graduate students who are candidates for the A.M. or Ph.D. degree. 2 s.h. PROFESSORS HALL AND BERNHEIM; ASSOCIATE PROFESSOR PENROD; AND ASSISTANT PROFESSOR HULL

M372. RESEARCH.—Individual investigations in the various fields of physiology. Credits to be arranged. PROFESSORS HALL AND BERNHEIM; ASSOCIATE PROFESSOR PENROD; AND ASSISTANT PROFESSOR HULL

ADVANCED DEGREES CONFERRED JUNE 7, 1954

MASTER OF ARTS

Harold Brice Alexander
June Northrop Barker
Richard John Barker
Rubin Battino
John Bowyer Bell, Jr.
Eugene Merle Bernstein
Morton Brown
Patricia Jean Carter
Emma Gower Connor
Christopher Julian Crowley
Harry Schuette Dietrich, Jr.
Esther Ann Easley
Richard Lee Francisco
Kathren Freeman
Robert Dorset Graves
Douglas Graham Hartle
F. Wilbur Helmbold
Stanley Hills
Einar Hinnov
Richard Holmes Hodgson
David S. Hoffenberg

Winfred Jackson House
John Howard Kepchar
Constance Jean Mackey
Robert William Millsbaugh
Isaac Newell
Arthur Marion O'Steen
Kenneth Owen Peck, Jr.
Thi Thu Pham
Virginia Meade Prichard
Charles Lloyd Reid
Paul Schatzberg
Adrienne Thoet Schweitzer
Julien Carl Seibert
Henry Charles Semmler
Elizabeth Faye Sinclair
Walter Herman Taylor, Jr.
Shirley Sidney Ulmer
Raymond Aubrey Warlick, Jr.
Harry Wilson Wells
Rodney Lee Wells
Stanley Ziring

MASTER OF ARTS IN TEACHING

Lloyd Gilbert Carroll
Elizabeth Hastings Heath

Mildred Mitchell Maddox
Judson Townes Mayfield, Jr.

James Earl Vann

ADVANCED DEGREES CONFERRED

101

MASTER OF EDUCATION

Robert Willard Clark

DOCTOR OF EDUCATION

- OLEN KENNETH CAMPBELL, A.B., Southeastern State College; M.A., Columbia University Teachers College.
Dissertation: "An Analysis of Provisions of State Constitution Affecting Support of Public Schools"
- CLYDE HOUSTON FARNSWORTH, B.S., Tennessee State College; A.B., Union University; M.A., Ohio State University; M.S., Mississippi State College.
Dissertation: "The Role of the Supervisor in New Hanover County"
- RICHARD SOUTHALL SPEAR, A.B., Catawba College; M.Ed., Duke University.
Dissertation: "The Legal Status of the Public School Teacher in North Carolina"

DOCTOR OF PHILOSOPHY

- PHILIP LEIGHTON BAYLESS, A.B., Oberlin College.
Dissertation: "Aroylations of Esters and Rearrangements of Quaternary Ammonium Ions by Bases"
- MARY EVELYN BLAGG, B.S., M.A., Texas State College for Women; M.A., University of Kentucky.
Dissertation: "Tory Political Theory in America: 1765-1776"
- PRISCILLA DATTMAN BLEKE, A.B., Wheaton College; A.M., Smith College.
Dissertation: "Determination of Relationships Between Distributions of Stimuli and Distributions of Judgments Under Instructions of Differing Specificity"
- PHILIPPE FRANCOIS JOSEPH BOURDEAU, A.M., Duke University.
Dissertation: "Oak Seedling Ecology Determining Segregation of Species in Piedmont Oak-Hickory Forests"
- ALEX EDGAR BRODHAG, JR., A.B., Oberlin College.
Dissertation: "Factors Governing Rearrangement in the Reactions of Certain Primary Amines of the Neopentyl Type with Nitrous Acid"
- JOHN WESLEY CHANDLER, B.A., Wake Forest College; B.D., Duke Divinity School.
Dissertation: "An Examination of David Hartley's Thought and its Influence on Philosophical Radicalism"
- MARY GILL CLARKE, A.B., Woman's College of the University of North Carolina; M.A., University of Minnesota.
Dissertation: "Schizophrenic and Normal Language Behavior From the Point of View of Semiotic"
- FLORAPEARL ARMSTRONG COBEY, B.S., University of Chattanooga.
Dissertation: "Adenylate Kinase Activity *in Vivo* and Studies on Sulfur Metabolism"
- BENJAMIN THEODORE COLE, B.S., A.M., Duke University.
Dissertation: "A Study of the Oxidative Products of Unsaturated Fatty Acid in Various Normal Embryonic and Adult Tissues of the Golden Hamster and Pathologic Tissues of Rats and Mice as Estimated by the Thiobarbituric Acid Test"
- WILLIAM JEFFREY COLES, B.A., Northern Michigan College of Education; A.M., Duke University.
Dissertation: "Linear and Ricatti Systems"
- DAVID BAINE COMER, III, B.A., M.A., Tulane University.
Dissertation: "Studies in the Literary Development of Robert Southey"
- JACK RANDOLPH CONRAD, A.B., A.M., Emory University.
Dissertation: "The Bullfight: The Cultural History of an Institution"
- CARY COOLIDGE, A.B., Blue Mountain College; A.M., George Peabody College.
Dissertation: "The Deterioration of External Reality in *A La Recherche Du Temps Perdu*"
- JOHN THOMAS COX, B.S., William and Mary.
Dissertation: "Nuclear Moments of I^{131} "
- VAN BOGARD DUNN, A.B., Murray State College; B.D., Duke Divinity School.
Dissertation: "Some Mythological and Cosmological Motifs in the Gospel According to Mark"
- CHARLES WILLIAM FOREMAN, B.A., University of North Carolina; A.M., Duke University.
Dissertation: "A Comparative Study of the Oxygen-Hemoglobin Equilibrium in Local Rodents"
- NOEL FRANCISCO, A.B., A.M., Drake University.
Dissertation: "Pacifism as a Social Movement"
- GLEN ROY GALE, A.B., A.M., Duke University.
Dissertation: "The Effects of Beta-Propiolactone on the Metabolism of Certain Pathogenic Fungi"

- JAY ANTHONY GERVAZI, A.B., Cornell University.
Dissertation: "The Direct Fluorination of Certain Aliphatic Amides, Amines, and Nitro Compounds"
- JOHN HOWARD GIBBONS, B.S., Randolph-Macon College.
Dissertation: "High Resolution Measurements of Neutron Cross Sections"
- WALTER BENSON GOAD, JR., B.S., Union College.
Dissertation: "A Theoretical Study of Extensive Cosmic Ray Air Showers"
- FLORA E. GORIROSSI, B.A., Seton Hill College; M.S., Catholic University.
Dissertation: "Comparative Anatomical Studies on the Gnathosoma of the Mesostigmatid Mites"
- RALPH TILLMAN GREEN, A.B., M.S., A. and M. College of Texas.
Dissertation: "Evaluating Adequacy of Bank Capital: An Analysis of the Problem"
- JOHN CALDWELL GUILDS, JR., B.A., Wofford College; A.M., Duke University.
Dissertation: "Simms as a Magazine Editor, 1825-1845: With Special Reference to His Contributions"
- HAROLD PHILIP HAMILTON, A.B., High Point College; B.D., Duke Divinity School.
Dissertation: "William Paley: Eighteenth Century Christian Apologist"
- RUPERT HESTER, B.A., Millsaps College; A.M., Columbia University.
Dissertation: "Application of the Type A Series to Critical-Ratio Tests"
- JOHN ALBERT HORNADAY, JR., A.B., A.M., Duke University.
Dissertation: "A Method of Developing a Series of Objective-Type Questions for Measuring the Extent to Which an Individual Deceives Himself About His Personal Characteristics"
- JOHN MCDADE HOWELL, A.B., M.A., University of Alabama.
Dissertation: "The Development of the Concept of Domestic Jurisdiction"
- GEORGE BELA KISH, A.B., M.A., Columbia University.
Dissertation: "The Onset and Cessation of Stimulus Energy as Conditioned Stimuli in Shock Avoidance Learning in the Albino Rat"
- RICHARD HUBERT KNIPE, B.S., California Institute of Technology.
Dissertation: "A Critical Discussion of the Molecular Orbital Method with Reference to the Pi Moments of Some Halogen-Substituted Benzenes"
- PHILIP EUGENE KUBZANSKY, B.S.S., The City College of New York.
Dissertation: "Visual Discrimination and Anxiety Level Under Stress and Non-Stress Conditions"
- PRESTON HILDEBRAND LEAKE, B.S., University of Virginia; A.M., Duke University.
Dissertation: "The Structure Determination and Synthesis of Some Polycyclic Aromatic Compounds"
- ROBERT MICHAEL MANYIK, B.S., University of California.
Dissertation: "Certain Condensations and Rearrangements by Boron Fluoride and Bases. Pyrimidines from B-Diketones and Urea"
- RONALD McRAE MILBURN, B.Sc., M.Sc., University of New Zealand.
Dissertation: "The Hydrolysis of Iron(III) Ion and the Stability of Iron(III) Complexes with Phenols"
- RICHARD CALVIN MOCKLER, B.S., Northwestern University.
Dissertation: "The Microwave Spectra and Structures of the Symmetric Top Molecules $H-Si-Cl_3$, $H-Ge-Cl_3$, $CH_3-Si-Cl_3$ and $(CH_3)_3-Si-Cl$ "
- MARY FRANCES MULDROW, A.B., Georgia State College for Women; A.M., Duke University.
Dissertation: "The Psychology of Family Relationships in the Works of Andre Gide"
- LAWRENCE RICHARD NICHOLS, B.A., Wake Forest College; A.M., Duke University.
Dissertation: "The Bronze Titan: The Mulatto Hero of Cuban Independence, Antonio Maceo"
- PAULINE WIGGINS O'BRIEN, A.B., University of Chattanooga.
Dissertation: "The 'Speaking Picture' in the Works of Sidney"
- JOHN BURRELL OLIVER, A.B., A.M., University of North Carolina.
Dissertation: "Japan's Role in the Origins of the London Naval Treaty of 1930: A Study in Diplomatic History"
- FRANK ROLAND OLSON, BA., Alfred University; M.A., Kent State University.
Dissertation: "Arithmetic Properties of Bernoulli Numbers of Higher Order"
- OSCAR ALBERT PARSONS, A.B., M.A., Temple University.
Dissertation: "Status Needs and Performance Under Failure: The Interrelationships Among Performance, Perception, and Social Behavior"
- CLAUDE S. PHILLIPS, JR., A.B., A.M., University of Tennessee.
Dissertation: "Questions of International Law in the Consideration of Selected Issues by the United States Congress, 1937-1941"
- ROBERT GEORGE POHRER, B.S., St. Louis University; A.M., Duke University.
Dissertation: "On the Solution of Equations in a Finite Field"

- BERNARD PORTER, B.S., The City College of New York.
Dissertation: "Measurements with the Oxygen Electrode at High Temperatures and Some Experiments in Rare Earth Chemistry"
- JAMES BRADY REECE, A.B., Johns Hopkins University; A.M., Duke University.
Dissertation: "Poe and the New York Literati, A Study of the 'Literati' Sketches and of Poe's Relations with the New York Writers"
- McMURRY SMITH RICHEY, A.B., B.D., Duke University.
Dissertation: "Conceptions of Man in the Thought of George Albert Coe and William Clayton Bower"
- HUGH GETTYS ROBINSON, B.A., Emory University.
Dissertation: "Pure Nuclear Quadrupole Couplings of Bi^{209} , ^{127}I , Br^{79-81} , and Hg^{201} in Solids"
- ALAN M. ROCHLIN, B.S., Rutgers University
Dissertation: "The quantitative Effects of Tilt of Visual Stimuli Upon Perception of Parallelness"
- ROBERT HARRY ROHRER, B.S., M.S., Emory University.
Dissertation: "Neutron Resonances in Selected Nuclides"
- HOWARD ALBERT SCARROW, A.B., Duke University; M.A., Wayne University.
Dissertation: "The Higher Public Service of the Commonwealth of Australia"
- THOMAS MELVILLE STANBACK, JR., B.S.C., University of North Carolina; M.B.A., Harvard University.
Dissertation: "Short Run Instability in the Cotton Broad Woven Goods Industry"
- A. THEODORE STEWART, JR., B.S., A.M., Duke University.
Dissertation: "Synthesis and Reactions of Alpha-Tertiaryaminobenzyl Butyl Ethers: Investigations of Mechanisms by Isotopic Methods"
- RICHARD LEE SULZER, A.B., A.M., Duke University.
Dissertation: "A Determination of Several Functions Relating Sensitivity of Perception of Parallelness to Stimulus Dimensions"
- ARTHUR S. TAMKIN, A.B., Harvard University.
Dissertation: "The Retention of Schizophrenics for Completed and Incompleted Puzzles and its relation to Ego Strength"
- ROBERT LEE TAYLOR, A.B., Nebraska Wesleyan University; M.A., University of Nebraska.
Dissertation: "A Study of the Antigenic Properties of *Histoplasma Capsulatum* Darling, 1906"
- SMAN VARDHANABHUTI, M.B., Chulalong Korn University.
Dissertation: "Antigenic Study of Chemically Purified Substances from *Nocardia Asteroides*"
- WALDEMAR MELCHERT WALTER, A.B., Harvard University.
Dissertation: "Mollusks of the Upper Neuse River, North Carolina"
- JOHN MAURICE WEBB, A.B., Duke University; A.M., Yale University.
Dissertation: "Robert Leslie—Merchant Manufacturer"
- ALFRED JOHN WEINHEIMER, B.S., M.S., Canisius College.
Dissertation: "Rearrangements of Certain Ethers and Quaternary Ammonium Salts by the Amide Ion"
- WIRT HENRY WILLS, B.A., University of Richmond; A.M., Duke University.
Dissertation: "The Physiology of the Tobacco Black Shank Fungus; Sporangium Formation and Formation of Oospores"
- PAUL, FREDERICK ZWEIFEL, B.S., Carnegie Institute of Technology.
Dissertation: "Capture-Positron Branching Ratios"

ADVANCED DEGREES CONFERRED SEPTEMBER 1, 1953

MASTER OF ARTS

Pierre Aubery	Edwin Demetrius Little, Jr.
Stanley M. Guise	Francis William Marley
Carolyn Jones Herbert	William Andrew Moyer
Dexter W. Hess	Robert John Peterson
Charles Buchanan Johnson	Patricia Jane Raff
Virginia Wetmore King	Charles Buck Roberts

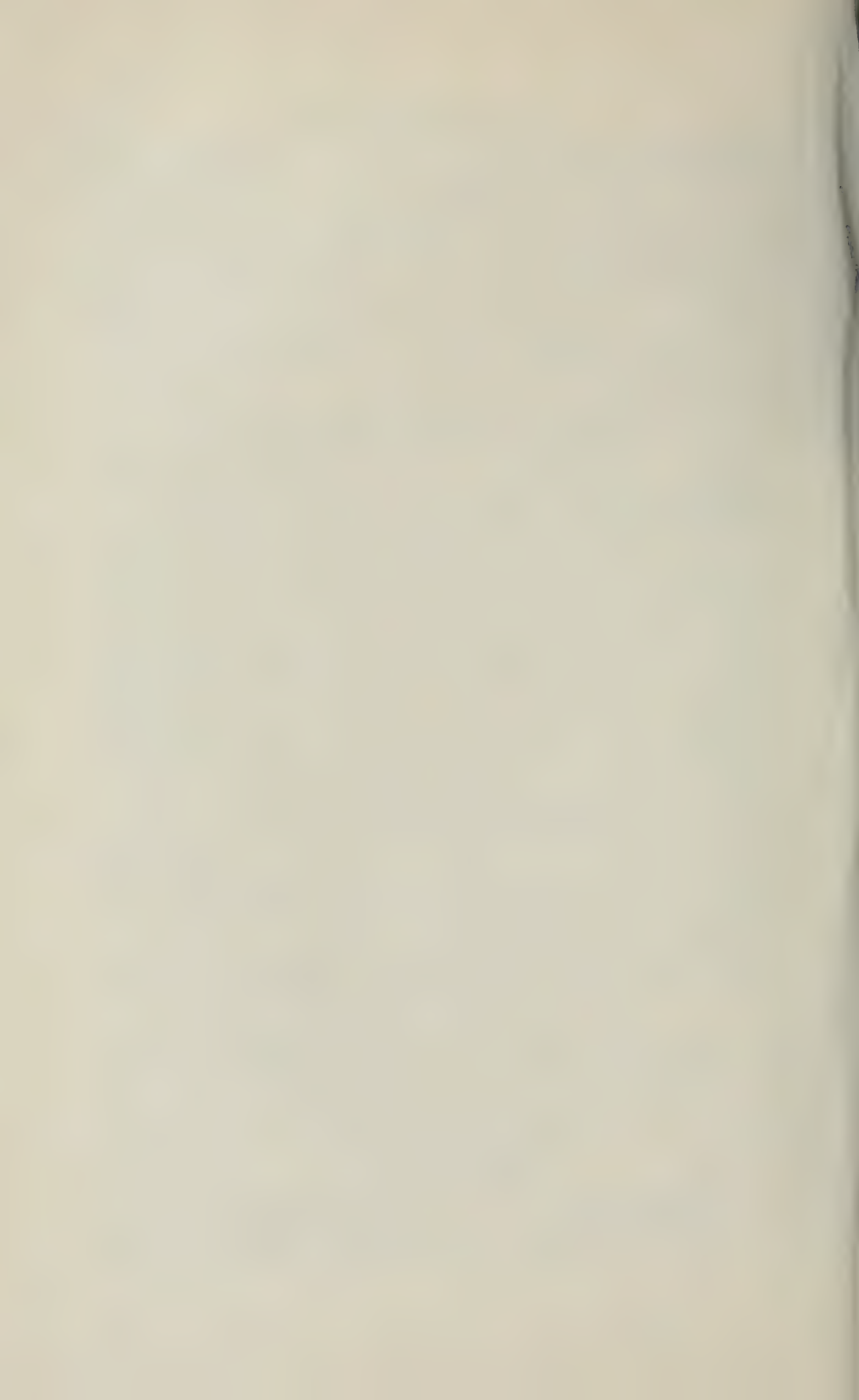
Milton Teichman

MASTER OF ARTS IN TEACHING

Vivienne Potat Stafford

MASTER OF EDUCATION

Viva Cleo Allen	Eddith Ruth Montgomery
Ida Zerfing Arms	Florence Elmira Ruff
Robert Sheerer Bishop	David Kenneth Taylor Tally
Sarah Virginia Laise	Ernest Woodrow Tufts
Emery E. Miller	Julia Catherine Weitzel



BULLETIN
OF
DUKE UNIVERSITY



Undergraduate Instruction

(Trinity College, the Woman's College, and the
College of Engineering)

ANNOUNCEMENTS FOR 1955-1956

Annual Bulletins

For GENERAL BULLETIN of Duke University, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF UNDERGRADUATE INSTRUCTION, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF THE COLLEGE OF ENGINEERING, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF THE GRADUATE SCHOOL OF ARTS AND SCIENCES, apply to *The Dean of the Graduate School*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF FORESTRY, apply to *The Dean of the School of Forestry*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF LAW, apply to *The Dean of the School of Law*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF MEDICINE, apply to *The Dean of the School of Medicine*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF NURSING, apply to *The Dean of the School of Nursing*, Duke University, Durham, N. C.

For BULLETIN OF THE DIVINITY SCHOOL, apply to *The Dean of the Divinity School*, Duke University, Durham, N. C.

For BULLETIN OF THE SUMMER SESSION, apply to *The Director of the Summer Session*, Duke University, Durham, N. C.

Published by Duke University monthly except in July, August, September, and December. Entered as second-class matter March 25, 1929, at the Post Office of Durham, North Carolina, under the Act of August 24, 1912.

DUKE UNIVERSITY

TRINITY COLLEGE

THE WOMAN'S COLLEGE

THE COLLEGE OF ENGINEERING



ANNOUNCEMENTS FOR 1955-56



The Chapel Tower

(from an etching by Louis Orr)

The Chapel Tower dominates the scene of West, or the University, Campus, and it symbolizes the spiritual heritage of the University. The predominantly Gothic architecture, traditionally restless and aspiring, contributes to the intellectually stimulating atmosphere of the University and provides an appropriate setting for educational endeavors.

BULLETIN
OF
DUKE UNIVERSITY



UNDERGRADUATE INSTRUCTION

TRINITY COLLEGE
THE WOMAN'S COLLEGE
THE COLLEGE OF ENGINEERING

1954-1955

ANNOUNCEMENTS FOR 1955-1956

DURHAM, NORTH CAROLINA
1955

"I request . . . that great care and discrimination be exercised in admitting as students only those whose previous record shows a character, determination, and application evincing a wholesome and real ambition for life."

—JAMES B. DUKE.

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Calendar of the Colleges

1955

- September 15. Thursday, 7:30 P.M. Assembly for all entering freshmen; Freshman Orientation begins.
- September 15. Thursday, 7:30 P.M. Assembly for transfer students entering Trinity College and the College of Engineering.
- September 19. Monday. Registration and matriculation of former students of Trinity College and the College of Engineering, who have not pre-registered.
- September 20. Tuesday. Registration and matriculation of new students with advanced standing, Woman's College.
- September 21. Wednesday. Final registration of pre-registered students.
- September 22. Thursday. Fall semester classes begin.
- October 25. Tuesday. Examination in English Usage.
- November 7. Monday. Last day for reporting mid-semester grades.
- November 23. Wednesday, 5:00 P.M. Thanksgiving recess begins.
- November 28. Monday, 8:00 A.M. Classes are resumed.
- December 11. Sunday. Founders' Day.
- December 17. Saturday, 12:30 P.M. Christmas recess begins.

1956

- January 3. Tuesday, 8:00 A.M. Classes are resumed.
- January 14. Saturday, 12:30 P.M. Fall semester classes end.
- January 17. Tuesday. Final examinations begin.
- January 27. Friday. Final examinations end.
- January 30. Monday. Registration and matriculation of new students.
- January 31. Tuesday. Last day for matriculation for the spring semester.
- February 1. Wednesday. Spring semester classes begin.
- March 14. Wednesday. Last day for reporting mid-semester grades.
- March 24. Saturday, 12:30 P.M. Spring recess begins.
- April 2. Monday, 8:00 A.M. Classes are resumed.
- May 18. Friday, 5:00 P.M. Spring semester classes end.
- May 21. Monday. Final examinations begin.
- May 31. Thursday. Final examinations end.
- June 2. Saturday. Commencement begins.
- June 3. Sunday. Commencement Sermon.
- June 4. Monday. Graduating Exercises.

The Undergraduate Colleges



DUKE UNIVERSITY is built about a group of colleges which have their roots deep in the past. It was founded more than one hundred years ago when a number of earnest citizens from Randolph and adjacent counties assembled in a log school house to organize an educational society. They wished to provide lasting support for the local academy founded a few months before by an energetic son of North Carolina, Brantley York.

Moved by "no small share of philanthropy and patriotism," these men set forth their belief "that ignorance and error are the bane not only of religious but also of civil society" and that they "rear up almost an impregnable wall between man and the happiness he so ardently pants after." On that basis they formally adopted a constitution for the Union Institute Society. Thus in February, 1839, the academy became Union Institute. Twelve years later the Institute was reorganized as Trinity College. In 1892 it was moved from the fields of Randolph County to the growing city of Durham. Thirty-two years later the College grew into Duke University. With increasing enrollment and the development of specialized needs the Woman's College was formed in 1925 and the College of Engineering in 1938.

From academy to university the basic principles have remained constant. The University motto, *Eruditio et Religio*, reflects a fundamental faith in the union of knowledge and religion, the advancement of learning, the defense of scholarship, the love of freedom and truth, a spirit of tolerance, and a rendering of the greatest service to the individual, the state, the nation, and the church. Through changing generations of students the objective has been to encourage each individual to achieve to the extent of his capacities an understanding and appreciation of the world in which he lives, his relationship to it, his opportunities, and his responsibilities.

Duke University is concerned with developing the whole man. In its classrooms, libraries, and laboratories it is concerned with his mental and moral development, in its gymnasiums and on its playing fields, with his physical growth, and in its Chapel and religious program, with his spiritual well being. Although it has always been closely associated with the Methodist Church, Duke welcomes students of all faiths and encourages them to develop their spiritual lives in accordance with the tenets of their own creeds. The need of training for specialized professions and employments is recognized, but such training is incidental to a larger purpose. Through the variety of the

subject matter, the insistence on a common core of fundamental courses, and an emphasis on a more intensive study of some selected subject, the colleges seek to give their students a knowledge and appreciation of the culture of the Western World and at the same time to provide a foundation for careers in business and the professions.

The three colleges exist as parts of a university community in which the student has full opportunity to take part. They have a unique role in this community as the centers of individual education for undergraduates, but as members of the University the colleges share in the extensive facilities of laboratory and field work, superior physical equipment, great libraries, and able faculties which only a major university can provide. They share the same campuses with the Graduate School of Arts and Sciences, the Law School, the Medical and Nursing Schools, the Divinity School, the School of Forestry, and the Duke Hospital. A wide range of activities, religious, intellectual, cultural, social, and athletic, is open to the entire University community. At the same time there are other activities and organizations designed specifically for members of each undergraduate college. The student may thus enjoy both the activities and the atmosphere of a small college and the broader facilities and challenges provided by the existence of a university community.

Although the three colleges have separate identities, they are closely inter-related. Students of Trinity College and the College of Engineering live in the same dormitories, belong to the same fraternities, hold membership in the same student government association, attend classes in the same buildings. The College of Engineering provides for the specialized interests of its students by offering training in technical fields. At the same time it recognizes the importance of the study of the humanities because it realizes that the engineer has definite responsibilities as a citizen and that these responsibilities cannot be properly stressed in the purely technical curricula. Engineering students, therefore, participate in the academic and extra-curricular life of the liberal arts college as well as in the training and campus activities peculiar to their own college.

As one of the colleges within the University system the Woman's College shares the advantages of the wider community, and yet it offers to its students the special opportunities and responsibilities which belong to a separate woman's college. Women students receive training in leadership by administering their own organizations and by participating in community projects. At the same time they have the stimulus which comes from co-educational classes and from the experience of working with men of other colleges in campus activities.

Whether in the classroom or on the campus the emphasis is on the individual. To this end, classes are kept small in size and close contact between professor and student is encouraged. Instructors, counsellors,

advisers, and administrative officers are interested in the student as a person. In turn the student is expected to accept the responsibility of contributing to his own development, to his college, and to his university. The relationship of mutual service between the individual student and his college is designed to develop men of intelligence, integrity, and culture. From this relationship there has grown through a century and more a sense of achievement and high competence that enables Duke men and women to make their place in the world as effective citizens whatever their careers may be.

Officers of the University for the Year 1954-55



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Durham, N. C.

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JAMES RAYMOND SMITH

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New York, N. Y.

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Concord, N. C.

Gastonia, N. C.

Detroit, Mich.

Raleigh, N. C.

Asheville, N. C.

New York, N. Y.

Snow Hill, N. C.

Walkertown, N. C.

Winston-Salem, N. C.

High Point, N. C.

Atlanta, Ga.

Rocky Mount, N. C.

Roanoke, Va.

Georgetown, S. C.

Raleigh, N. C.

Charlotte, N. C.

Saxapahaw, N. C.

High Point, N. C.

Charlotte, N. C.

Mount Airy, N. C.

Laurinburg, N. C.

Charlotte, N. C.

Troy, N. C.

New York, N. Y.

Wilmington, N. C.

Mount Airy, N. C.

Durham, N. C.

* Died, September 19, 1954.

*WALTER ALBERT STANBURY
 RICHARD ELTON THIGPEN
 KENNETH CRAWFORD TOWE
 GEORGE ROBERTS WALLACE
 EARLE WAYNE WEBB
 BUNYAN SNIPES WOMBLE

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 Charlotte, N. C.
 New York, N. Y.
 Morehead City, N. C.
 New York, N. Y.
 Winston-Salem, N. C.

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 PLEASANT HUBER HANES

Charlotte, N. C.
 Winston-Salem, N. C.

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CHARLES ALBERT KRUMMEL, Ph.D. <i>Professor Emeritus of German</i>	2118 Englewood Avenue
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KARL BACHMAN PATTERSON, A.M. <i>Assistant Professor Emeritus of Mathematics</i>	1024 Monmouth Avenue
ARTHUR SPERRY PEARSE, Ph.D., LL.D. <i>Professor Emeritus of Zoology</i>	803 Second Street
ARTHUR MARCUS PROCTOR, Ph.D. <i>Professor Emeritus of Education</i>	1500 Edgedale Drive

* Died, March 24, 1954.

† Died, June 24, 1954.

WILLIAM WALTER RANKIN, Jr., M.A. <i>Professor Emeritus of Mathematics</i>	Phillips Exeter Academy Exeter, New Hampshire
GILBERT THEODORE ROWE, S.T.D., D.D., Litt.D. <i>Professor Emeritus of Christian Doctrine</i>	150 Pinecrest Road
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HERSEY EVERETT SPENCE, B.D., D.D., Litt.D. <i>Professor Emeritus of Religious Education</i>	3629 Hope Valley Road, Hope Valley
HERBERT WILFRID SUGDEN, Ph.D. <i>Assistant Professor Emeritus of English</i>	Pinehurst, N. C.
MRS. MARY HENDREN VANCE, A.M. <i>Assistant Professor Emeritus of English</i>	814 Cowper Drive, Raleigh, N. C.
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EDWARD HUDSON YOUNG, A.M. <i>Assistant Professor Emeritus of Romance Languages</i>	107 Watts Street

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PAUL MAGNUS GROSS, Ph.D. <i>Vice-President in the Division of Education</i>	3816 Dover Road, Hope Valley
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The Colleges

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------------------------------------------------------------------------	-------------

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- WALTER JAMES SEELEY, E.E., M.S.
Dean of the College of Engineering 1005 Urban Avenue
- ALAN KREBS MANCHESTER, Ph.D.
Dean of Undergraduate Studies 2016 Myrtle Drive
- WILLIAM COUNCILL ARCHIE, Ph.D.
Associate Dean of Trinity College 2310 Cranford Road
- SUSAN A. CLAY, M.A.
Acting Associate Dean of Academic Instruction 216 Faculty Apartments
- ROBERT B. COX, A.M.
Dean of Undergraduate Men 1107 Ninth Street
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Dean of Undergraduate Instruction, Woman's College 1507 W. Pettigrew Street
- MARIANNA DUNCAN JENKINS, Ph.D.
Associate Dean of Undergraduate Instruction, Woman's College 1026 Minerva Avenue
- LEWIS J. McNURLEN, M.A.
Assistant Dean of Freshmen and Sophomores, Trinity College 1818 Glendale Avenue
- LANIER W. PRATT, M.A.
Assistant Dean of Trinity College 2007 Ruffin Street
- MARY GRACE WILSON, A.M.
Dean of Undergraduate Women Faculty Apartments
- MRS. FRANCIS M. WHITAKER, M.A.
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Director of Admissions, Woman's College 612 Swift Avenue
- EVERETT BROADUS WEATHERSPOON, A.B.
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Assistant Director of Admissions, Trinity College and the College of Engineering 202 Faculty Apartments, East Campus
- BARBARA EVANS, A.B.
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- ROBERT MERLE COLVER, Ed.D.
Assistant Director, Bureau of Testing and Guidance 900 Dacian Avenue
- W. SCOTT GEHMAN, JR., Ph.D.
Senior Counselor, Bureau of Testing and Guidance 420 Carolina Circle
- J. ALBERT SOUTHERN, A.B.
Psychometrist, Bureau of Testing and Guidance 862 Louise Circle, Poplar Apartments

* Resigned, June 30, 1954.

Graduate and Professional Schools

*CHARLES SACKETT SYDNOR, M.A. (Oxon.), Ph.D., Litt.D., LL.D. <i>Dean of the Graduate School of Arts and Sciences</i>	116 Pinecrest Road
MARCUS EDWIN HOBBS, Ph.D. <i>Dean of the Graduate School of Arts and Sciences</i>	115 Pinecrest Road
EARL THOMAS HANSON, Ph.D. <i>Director of Admissions, Graduate School of Arts and Sciences</i>	613 Swift Avenue
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CLARENCE FERDINAND KORSTIAN, Ph.D. <i>Dean of the School of Forestry</i>	4 Sylvan Road
JOSEPH A. MCCLAIN, JR., J.S.D., LL.D. <i>Dean of the School of Law</i>	2021 Myrtle Drive
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ANN MADELINE JACOBANSKY, R.N., B.S.N.E., M.Ed. <i>Dean of the School of Nursing</i>	Westover Park Apartments
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CAZYLN GREEN BOOKHOUT, Ph.D. <i>Director of the Duke Marine Laboratory</i>	1307 Alabama Avenue
ANNE INMAN, B.S. <i>Administrative Assistant, Graduate School</i>	1100 Oakland Avenue
HELEN MILDRED KENDALL, A.B. <i>Administrative Assistant and Secretary of the Faculty, Divinity School</i>	Faculty Apartments

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THEODORE WARREN MINAH, B.S. in H.M. <i>Director of Dining Hall Operations</i>	2117 Club Boulevard
MARY ROBINSON, B.A., B.S. <i>Manager, the Dining Halls, Woman's College</i>	2729 Circle Drive

* Died, March 2, 1954.

- ELIZABETH MARGUERITE KAISER, B.A., M.S. 921 Lambeth Circle, Poplar Apartments
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Purchasing Agent
- JESSE DAVID WELLONS, JR. 2703 Augusta Drive
Manager of Stores Operations
- WALTER GLEN COOPER, B.A. 1008 North Gregson Street
Personnel Director
- WILLIAM KENNETH HOWARD, B.S. 106 Pinecrest Road
Maintenance Engineer
- HENRY FRANKLIN BOWERS, A.B. 2505 Perkins Road
Manager of Operations
- ERNEST LEE HAYWOOD, A.B. 104 Hilton Avenue
Chief Accountant
- CHARLES R. DUVAL, C.P.A. Apartment 14, Fifth and Markham Avenue
Internal Auditor
- KENNETH R. MANNING, A.B. Duke University Apartments
Supervisor, Tabulating Department
- HENRY SPECK MORGAN, A.B. 409 Francis Street
Chief Clerk, Treasurer's Office
- WILLIAM J. GRIFFITH, A.B. 2312 Wilson Street
Director, Student Union
- CARL A. BOY 2214 Erwin Road
Superintendent of Utilities
- JOHN C. GIFT 811 Fifth Street
Superintendent of Building Maintenance

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- JOHN M. DOZIER, A.B. 2111 Ruffin Street
*Assistant to the Vice-President in the Division of Public Relations;
 Executive Secretary, University Scholarship Committee*
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- ANNE GARRARD, A.M. 1411 North Duke Street
Assistant Director
- WILLIAM ALLEN TYREE, A.B. 610 Buchanan Boulevard
Field Secretary, Duke University Loyalty Fund
- CHARLOTTE CORBIN, A.B. 403 W. Chapel Hill Street
Assistant to the Director

INSTRUCTIONAL STAFF

17

ROGER L. MARSHALL, A.B. <i>Editor, Alumni Register, and Assistant to the Director</i>	1829 Forest Road
FRED W. WHITENER, A.B. <i>Secretary of Local Associations</i>	Cornwallis Road
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CLARK C. COOK, A.B. <i>Editorial Assistant</i>	2337 Glendale Avenue
THAD W. SPARKS <i>University Photographer</i>	1206 B Street
*JAMES J. WHITLEY, JR. <i>University Photographer</i>	2509 Banner Street

Officers of Instruction

INSTRUCTIONAL STAFF

FRANCES DOROTHY ACOMB (1945), Ph.D. <i>Assistant Professor of History</i>	C-1B University Apartments
DONALD KEITH ADAMS (1931), Ph.D. <i>Professor of Psychology</i>	2508 Cornwallis Road
EDWIN PASCAL ALYEA (1930), M.D. <i>Professor of Urology</i>	3102 Devon Road, Hope Valley
LEWIS EDWARD ANDERSON (1936), Ph.D. <i>Professor of Botany</i>	2020 Sunset Avenue
ROGER FABIAN ANDERSON (1950), Ph.D. <i>Associate Professor of Forest Entomology</i>	2528 Perkins Road
WILLIAM BANKS ANDERSON (1930), M.D. <i>Professor of Ophthalmology</i>	502 East Forest Hills Boulevard
HAROLD LEE ANDREWS (1954), M.M. <i>Temporary Instructor in Music</i>	713 Club Boulevard
WILLIAM G. ANLYAN (1951), M.D. <i>Assistant Professor of Surgery</i>	2519 Pickett Road
†WILLIAM COUNCILL ARCHIE (1946), Ph.D. <i>Associate Professor of Romance Languages</i>	2310 Cranford Road
JAY MORRIS ARENA (1933), M.D. <i>Associate Professor of Pediatrics</i>	2032 Club Boulevard
KIRO PETE ARGES (1953), M.S. in C.E. <i>Assistant Professor of Civil Engineering</i>	915 Lambeth Circle, Poplar Apartments
RALPH ARANOVITZ ARNOLD (1946), M.D. <i>Associate Professor of Otolaryngology and Ophthalmology</i>	415 Carolina Circle
‡JOHN RAINEY ASHE, JR. (1954), M.D. <i>Associate in Obstetrics and Gynecology</i>	944 Lambeth Circle Poplar Apartments
THEODORE WINSLOW ATWOOD (1934), D.M.D. <i>Associate in Dentistry</i>	9 Carolee Apartments, 2200 Elder Street
HOWARD M. AUSERMAN (1953), M.D. <i>Associate Professor of Anesthesiology</i>	Apartment 5, Erwin Road, Staff Quarters
THOMAS MALCOLM AYCOCK (1937), M.A. <i>Professor of Physical Education</i>	DIC University Apartments

* Resigned, August 31, 1954.

† Absent on sabbatical leave, spring semester, 1954-55.

‡ Resigned, December 31, 1954.

- JOSEPH RANDLE BAILEY (1946), Ph.D.
Assistant Professor of Zoology 2117 Sprunt Street
- LENIX DIAL BAKER (1947), M.D.
Professor of Orthopaedic Surgery 3106 Cornwall Road, Hope Valley
- ROGER D. BAKER (1930-1942; 1952), M.D.
Professor of Pathology 303 Swift Avenue
- MARIE BALDWIN (1949), M.D.
Associate in Psychiatry Duke Hospital
- *KATHARINE MAY BANHAM (1946), Ph.D.
Associate Professor of Psychology 115 North Dillard Street
- †EUGENE PENDLETON BANKS (1953), Ph.D.
Instructor in Sociology Randolph Road, Route 1
- JAMES FOSTER BARNES (1929), M.A.
Lecturer in Church Music 2401 Cranford Road
- ROBERT HENRY BARNES (1953), M.D.
Assistant Professor of Psychiatry 1503 Alabama Avenue
- JAMES W. BARNHILL (1954), M.A., Major, U. S. Air Force
Assistant Professor of Air Science 2507 Glendale Avenue
- PAULL FRANKLIN BAUM (1922), Ph.D.
James B. Duke Professor of English 112 Pinecrest Road
- GEORGE JAY BAYLIN (1939), M.D.
Professor of Radiology and Associate in Anatomy 2260 Cranford Road
- CHARLES A. BAYLIS (1952), Ph.D.
Professor of Philosophy 601 East Markham Avenue
- WILLIAM WALDO BEACH (1946), B.D., Ph.D.
Professor of Christian Ethics 100 Vineyard Street
- MRS. DOROTHY WATERS BEARD (1938), R.N.
Associate in Surgery Route 3, Hillsboro, N. C.
- JOSEPH WILLIS BEARD (1937), M.D.
Professor of Surgery in Charge of Experimental Surgery; Associate Professor of Virology Route 3, Hillsboro, N. C.
- ROLAND FREDERICK BECKER (1951), Ph.D.
Associate Professor of Anatomy 1010 Monmouth Avenue
- GEORGE K. BEEBE (1954), A.M.
Instructor in Romance Languages 315 Greenwood Drive
- GORDON EDWARD BELL (1954), M.B.A., C.P.A.
Assistant Professor of Economics 23 Maxwell Road, Glen Lennox
Chapel Hill, N. C.
- WALTER R. BENSON (1952), M.D.
Associate in Pathology 947 Lambeth Circle, Poplar Apartments
- FREDERICK BERNHEIM (1930), Ph.D.
Professor of Pharmacology Woodridge Drive
- MRS. MARY LILIAS CHRISTIAN BERNHEIM (1930), Ph.D.
Associate Professor of Biochemistry Woodridge Drive
- MRS. LYDIA BERNSTEIN (1953), B.M., M.S.
Visiting Instructor in Music 103 North Street, Chapel Hill, N. C.
- EDWARD WILLARD BERRY (1936), Ph.D.
Professor of Geology 1003 North Gregson Street

* Absent on sabbatical leave, spring semester, 1954-55.

† Resigned, August 31, 1954.

- MRS. HELEN SMITH BEVINGTON (1943), M.A.
Assistant Professor of English Box 94, Route 2, Guess Road
- MERLE MOWERAY BEVINGTON (1942), Ph.D.
Professor of English Box 94, Route 2, Guess Road
- LUCIUS AURELIUS BIGELOW (1929), Ph.D.
Professor of Chemistry 131 Pinecrest Road
- WILLIAM DWIGHT BILLINGS (1952), Ph.D.
Associate Professor of Botany 708 Louise Circle, Poplar Apartments
- MARTIN LEE BLACK, JR. (1930), M.B.A., C.P.A.
Professor of Accounting 135 Pinecrest Road
- WILLIAM MAXWELL BLACKBURN (1926), Ph.D.
Professor of English 2101 Ward Street
- ROBERT LINCOLN BLAKE (1949)
Associate in Medical Art and Illustration 609 Ruby Street
- *ROBERT BLEKE (1953), Ph.D.
Lecturer in Psychology 1004 Carolina Avenue
- †MARTIN M. BLOCK (1952), Ph.D.
Assistant Professor of Physics and Research Associate
- HUGO LEANDER BLOMQUIST (1920), Ph.D.
Professor of Botany 922 Demerius Street
- BYRON M. BLOOR (1952), M.D.
Associate in Neurosurgery 1409 Broad Street
- JAMES ROBERT BLY (1949), M.S.
Assistant Professor of Physical Education 2001 Ruffin Street
- WILLIAM BRYAN BOLICH (1927), M.A., B.C.L.
Professor of Law 3724 Hope Valley Road, Hope Valley
- EDWARD CLAUDE BOLMEIER (1948), Ph.D.
Professor of Education 217 Faculty Apartments
- ALLAN HADLEY BONE (1944), M.M.
Associate Professor of Music 2314 West Club Boulevard
- CAZLYN GREEN BOOKHOUT (1935), Ph.D.
Professor of Zoology 1307 Alabama Avenue
- MRS. ELIZABETH CIRCLE BOOKHOUT (1932-43; 1945), M.S.
Associate Professor of Physical Education 1307 Alabama Avenue
- ALEXANDER W. BOONE (1952), M.D.
Assistant Professor of Urology 2027 Woodrow Street
- LLOYD J. BORSTELMANN (1953), Ph.D.
Assistant Professor of Psychology 305 Francis Street
- ‡ELBERT VICTOR BOWDEN (1952), M.A.
Instructor in Economics Chapel Hill Road
- GILMORE BOWERS (1953), B.S. in E.E.
Instructor in Electrical Engineering 2305 Prince Street
- W. EDGAR BOWERS, JR. (1952), Ph.D.
Instructor in English 2101 Ward Street
- FRANCIS EZRA BOWMAN (1945), Ph.D.
Associate Professor of English 2114 Woodrow Street

* Resigned, April 30, 1954.

† Absent on leave, 1954-55.

‡ Resigned, August 31, 1954.

BENJAMIN BOYCE (1950), Ph.D. <i>Professor of English</i>	1200 Dwire Place
*JOSEPH ALSTON BOYD, JR. (1952), M.D. <i>Assistant Professor of Radiology and Radiologist</i>	Hathaway Road
DAVID GILBERT BRADLEY (1949), Ph.D. <i>Assistant Professor of Undergraduate Religion</i>	707 Hudson Street
HAROLD L. BRADLEY (1940), B.S. <i>Assistant Professor of Physical Education</i>	1903 Washington Street
CHARLES KILGO BRADSHAW (1939), Ph.D. <i>Associate Professor of Chemistry</i>	118 Pinecrest Road
JOHN SAEGER BRADWAY (1931), A.M., LL.B. <i>Professor of Law, and Director of the Legal Aid Clinic</i>	2621 Stuart Drive
RALPH J. D. BRAIBANTI (1953), Ph.D. <i>Associate Professor of Political Science</i>	2614 Stuart Drive
ROBERTA FLORENCE BRINKLEY (1947), Ph.D. <i>Professor of English</i>	East Campus
ROBERT MAURICE BRODERSON (1952), M.F.A. <i>Instructor in Art Education and Studio, and Instructor in Department of Education</i>	4 Duke University Apartments Fifth and Markham Avenue
ELMER L. BROOKS (1953), M.A. <i>Instructor in English</i>	1005 South Duke Street
FRANCES CAMPBELL BROWN (1931), Ph.D. <i>Associate Professor of Chemistry</i>	1205 Dwire Place
IVAN WILLARD BROWN, JR. (1940-42; 1945), M.D. <i>Associate Professor of Surgery</i>	2314 Woodrow Street
WADE GILLIES BROWN (1947), A.B. <i>Lecturer in Sanitary Engineering</i>	1317 Arnette Avenue
†WILLIAM HUGH BROWNE (1948), Th.M., Ph.D. <i>Assistant Professor of Old Testament</i>	2809 Fairview Road
‡PAUL ROBEY BRYAN, JR. (1951), M.M. <i>Assistant Professor of Music</i>	1 Duke University Apartments
EDWIN CONSTANT BRYSON (1931), LL.B. <i>Professor of Law</i>	818 Anderson Street
ROGER CONANT BUCK (1953), B.A., B.Phil. (Oxon.) <i>Assistant Professor of Philosophy</i>	1017½ Gloria Avenue
LOUIS J. BUDD (1952), Ph.D. <i>Assistant Professor of English</i>	1011½ Dacian Avenue
§MRS. JE HARNED BUFKIN (1949), R.N., R.R.L. <i>Assistant Professor of Medical Record Library Science</i>	2425 Perkins Road
EVERETT I. BUGG, JR. (1953), M.D. <i>Associate in Orthopaedics</i>	1544 Hermitage Court
EWALD W. BUSSE (1953), M.D. <i>Professor of Psychiatry and Chairman of the Department of Psychiatry</i>	2204 Erwin Road
WILLIAM L. BYRNE (1954), Ph.D. <i>Associate in Biochemistry</i>	Duke Hospital

* Resigned, September 15, 1954.

† Absent on sabbatical leave, fall semester, 1954-55.

‡ Absent on leave, 1954-55.

§ Absent on leave, May 15, 1954, to August 15, 1954.

- JASPER LAMAR CALLAWAY (1937), M.D.
Professor of Dermatology and Syphilology 828 Anderson Street
- EDMUND MCCULLOUGH CAMERON (1926), A.B.
Director of Physical Education and Athletics 2818 Chelsea Circle, Hope Valley
- MARY BELL CAMPBELL (1952), R.N., B.S., M.A.A.N.A.
Instructor in Operating Room Technique Hanes House
- MARY MILTON CAMPBELL (1953), R.N., B.S.N.E.
Instructor in Nursing Education 402 Buchanan Boulevard
- *RUTH F. CAMPBELL (1952), M.A.
Instructor in Romance Languages 913 Green Street
- JAMES CANNON (1919), A.M., Th.M., D.D.
Ivey Professor of the History of Religion and Missions 2022 Myrtle Drive
- LEONARD CARLITZ (1932), Ph.D.
Professor of Mathematics 2303 Cranford Road
- DAVID WILLIAMS CARPENTER (1929), Ph.D.
Professor of Physics 137 Pinecrest Road
- JOHN WINDER CARR, JR. (1926), Ph.D.
Professor of Education 926 Monmouth Avenue
- EEER MALCOLM CARROLL (1923), Ph.D.
James B. Duke Professor of History K1C University Apartments
- R. CHARMAN CARROLL (1944), R.N., A.B., M.D.
Assistant Professor of Psychiatry Duke Hospital
- BAYARD CARTER (1931), M.D.
Professor of Obstetrics and Gynecology 2111 Myrtle Drive
- DONALD D. CARTER (1952), M.D.
Associate in Medicine 875 Louise Circle, Poplar Apartments
- ALLAN MURRAY CARTTER (1952), Ph.D.
Assistant Professor of Economics and Research Associate 1208 Dwire Place
- WILLIAM H. CARTWRIGHT (1951), Ph.D.
Professor of Education 942 Lambeth Circle, Poplar Apartments
- MRS. HELEN KENNARD CASTELLANO (1947), M.A.
Instructor in Romance Languages 2511 Perkins Road
- JUAN RODRÍGUEZ CASTELLANO (1947), Doctor en Filosofía y Letras
Associate Professor of Romance Languages 2511 Perkins Road
- LEON EDWARD CHAIKEN (1952), B.S., M.F.
*Associate Professor of Forest Management and
 Assistant Director of the Forest* 2737 Dogwood Road
- JOHN V. CHAMBERLAIN (1954), A.M.
Visiting Instructor in Biblical Studies 28 Hawthorne Drive
- MRS. ROMA SAWYER CHEEK (1947), Ph.D.
Assistant Professor of Political Science 210 Cottage Lane, Chapel Hill, N. C.
- BENJAMIN GUY CHILDS (1924), M.A.
Professor of Education 1019 West Markham Avenue
- ELON HENRY CLARK (1934)
Professor of Medical Art and Illustration 1300 Oakland Avenue
- †KENNETH WILLIS CLARK (1931), Ph.D.
Professor of New Testament Language and Literature 1308 West Markham Avenue

* Resigned, August 31, 1954.

† Absent on sabbatical leave, 1954-55.

- LELIA ROSS CLARK (1949), R.N., M.A.
Professor of Nursing Service Apartment 6M, Poplar Apartments
- *ROBERT W. CLARK (1950), A.B., Captain, U. S. Air Force
Assistant Professor of Air Science 1109 North Gregson Street
- ROMANE LEWIS CLARK (1953), Ph.D.
Assistant Professor of Philosophy Apartment 10
 Fifth and Markham Avenue
- MRS. MARGARET BERNARDINE AREY CLARKE (1953), R.N., B.S.
Instructor in Pediatric Nursing Apartment 4, 718 Underwood Avenue
- MAURICE H. CLARKE (1953), B.S., Lieutenant Colonel, U. S. Marine Corps
Associate Professor of Naval Science 214 Swift Avenue
- JAMES T. CLELAND (1945), M.A., Th.D., D.D.
*James B. Duke Professor of Preaching, and
 Preacher to the University* 2117 Myrtle Drive
- PAUL HIBBERT CLYDE (1937), Ph.D.
Professor of History 1311 Carolina Avenue
- LOUIS DAVID COHEN (1946), Ph.D.
*Associate Professor of Psychology, and Associate
 Professor of Medical Psychology* 913 Monmouth Avenue
- ROBERT TAYLOR COLE (1935), Ph.D.
James B. Duke Professor of Political Science 7 Sylvan Road
- GEORGE H. COLLIER (1951), Ph.D.
Assistant Professor of Psychology 510 East Club Boulevard
- JOHN P. COLLINS (1948), M.D.
Associate Professor of Surgery Erwin Road
- JOEL G. COLTON (1947), Ph.D.
Assistant Professor of History 2801 Dogwood Road
- ROBERT MERLE COLVER (1953), Ed.D.
Assistant Professor of Education 900 Dacian Avenue
- NORMAN FRANCIS CONANT (1935), Ph.D.
*Professor of Mycology, and Associate
 Professor of Bacteriology* Route 1, Old Cornwallis Road
- RICHARD GRIGSBY CONNAR (1950), M.D.
Assistant Professor of Surgery Alastair Apartments, 300 Swift Avenue
- †ROBERT HOWE CONNERY (1949), Ph.D.
Professor of Political Science 906 Buchanan Boulevard
- THOMAS HOWARD CORDLE (1950), Ph.D.
Assistant Professor of Romance Languages 2420 Perkins Road
- ‡LEE CORDREY (1954), M.D.
Associate in Orthopaedics
- §ALFRED NIXON COSTNER (1950), M.D.
Associate in Ophthalmology 1204 Ruffin Street
- MARTHA LEE COVINGTON (1954), B.S.N.
Instructor in Nursing Arts Apartment S2, 810 Demerius Street
- ROBERT CALVIN COX (1942), M.A.
Assistant Professor of Physical Education 1826 Guess Road
- ROBERT LAWRENCE CRAIG (1938), M.D.
Associate in Psychiatry Duke Hospital

* Resigned, August 31, 1954.

† Absent on leave, fall semester, 1954-55.

‡ June 1, 1954, to September 28, 1954.

§ Absent on leave, August 1, 1954, to February 1, 1955.

ROBERT NOWELL CREADICK (1946), M.D. <i>Associate Professor of Obstetrics and Gynecology</i>	1200 Anderson Street
*MASON CRUM (1930), Ph.D., Litt.D. <i>Professor of Biblical Literature</i>	912 Anderson Street
†JOHN SHELTON CURTISS (1945), Ph.D. <i>Professor of History</i>	Route 2, Box 95, Guess Road
ROBERT EARL CUSHMAN (1945), B.D., Ph.D. <i>Professor of Systematic Theology</i>	130 Pinecrest Road
BINGHAM DAI (1943), Ph.D. <i>Professor of Psychology, and Professor of Medical Psychology</i>	2404 Perkins Road
BOYD LEE DANIELS (1952), B.D. <i>Instructor in Undergraduate Religion</i>	330 Clark Street
WILLIAM DAVID DAVIES (1950), B.D., D.D. <i>Professor of Biblical Theology</i>	810 Second Street
GIFFORD DAVIS (1930), Ph.D. <i>Professor of Romance Languages</i>	2248 Cranford Road
MRS. ATALA THAYER SCUDDER DAVISON (1942), M.D. <i>Associate in Pediatrics</i>	Fairways, Hope Valley
WILBURT CORNELL DAVISON (1927), M.D., D.Sc., LL.D. <i>James B. Duke Professor of Pediatrics</i>	Fairways, Hope Valley
HOWARD W. DAWSON (1953), B.S., Lieutenant Commander, U. S. Navy <i>Assistant Professor of Naval Science</i>	909 Arnette Avenue
ALEXANDER DeCONDE (1952), Ph.D. <i>Assistant Professor of History</i>	1515 Woodburn Road
JOHN ESSARY DEES (1939), M.D. <i>Professor of Urology</i>	413 Carolina Circle
MRS. SUSAN COONS DEES (1939), M.D. <i>Associate Professor of Pediatrics and Allergy</i>	413 Carolina Circle
WILLIAM P. DEISS, JR. (1954), M.D. <i>Assistant Professor of Medicine and Biochemistry, and Director of Radioisotope Laboratory, Veterans Hospital</i>	Veterans Hospital
WILLIAM J. A. DEMARIA (1951), M.D. <i>Assistant Professor of Pediatrics</i>	1501 Woodburn Road
JEAN-JACQUES DEMOREST (1948), Ph.D. <i>Associate Professor of Romance Languages</i>	2712 Circle Drive
WILLIAM ERNEST DeTURK (1949), M.D., Ph.D. <i>Associate Professor of Pharmacology</i>	2513 Pickett Road
FRANK TRAVER DeVYVER (1935), Ph.D. <i>Professor of Economics</i>	8 Sylvan Road
DONALD J. DEWEY (1950), M.A. <i>Assistant Professor of Economics</i>	611 Watts Street
MACDONALD DICK (1932), M.D. <i>Assistant Professor of Physiology and Pharmacology, and Associate in Medicine</i>	Norwich Way, Hope Valley
ROBERT L. DICKENS (1949), M.S., C.P.A. <i>Assistant Professor of Accounting</i>	2024 Sprunt Street

* Absent on sabbatical leave, spring semester, 1954-55.

† Absent on sabbatical leave, 1954-55.

- RUSSELL LESLIE DICKS (1949), B.D., D.D., D.Litt.
*Associate Professor of Pastoral Care and
 Chaplain to Duke Hospital* 2308 Prince Street
- MRS. MARIE-THERESE LINIERE DOW (1934), L. ès L., M.A.
Instructor in Romance Languages 2252 Cranford Road
- NEAL DOW (1934), Ph.D.
Associate Professor of Romance Languages 2252 Cranford Road
- ANTHONY CHARLES DRAGO (1953), B.S. in P.E.
Instructor in Physical Education 1003 Lamond Avenue
- FRANCIS GEORGE DRESSEL (1929), Ph.D.
Professor of Mathematics 309 Francis Street
- KENNETH LINDSAY DUKE (1940), Ph.D.
Associate Professor of Anatomy 701 West Club Boulevard
- ROBERT F. DURDEN (1952), Ph.D.
Instructor in History 2812 Erwin Road, Poplar Apartments
- GEORGE SHARP EADIE (1930), Ph.D.
Professor of Physiology and Pharmacology 3433 Dover Road, Hope Valley
- WATT WEEMS EAGLE (1930), Ph.D.
Professor of Otolaryngology 804 Anderson Street
- MRS. ELEANOR BEAMER EASLEY (1934), M.D.
Associate in Obstetrics and Gynecology Guess Road
- *HOWARD EASLEY (1930), Ph.D.
Associate Professor of Education Guess Road
- RUTH BUCHANAN EDDY (1952), M.S.
Assistant Professor of Physical Education 213 Faculty Apartments
- FRANK NICHOLAS EGERTON (1945), A.M., E.E.
Associate Professor of Electrical Engineering 111 North Gregson Street
- WILLIAM WHITFIELD ELLIOTT (1925), Ph.D.
Professor of Mathematics Hillandale Road
- LEON HUBBARD ELLIS (1947), Ph.D.
Lecturer in Political Science 2428 Perkins Road
- ERNEST ELSEVIER (1950), M.S. in M.E.
Assistant Professor of Mechanical Engineering Route 1, Hillsboro, N. C.
- †JOHN RICHARD EMLET (1952), M.D.
Associate in Surgery 2521 Pickett Road
- FRANK LIBMAN ENGEL (1947), M.D.
*Associate Professor of Medicine and
 Assistant Professor of Physiology* 1302 Oakland Avenue
- E. HARVEY ESTES (1953), M.D.
Associate in Medicine 8 Meadowbrook Avenue
- JOHN WENDELL EVERETT (1932), Ph.D.
Professor of Anatomy 2605 University Drive
- WILLIAM MARTIN FAIRBANK (1952), Ph.D.
Associate Professor of Physics 2016 Perishing Street
- CARMEN M. FALCONE (1946), M.A.
Assistant Professor of Physical Education D-1A University Apartments
- JOHN MORTON FEIN (1950), Ph.D.
Assistant Professor of Romance Languages 2742 Circle Drive

* Absent on leave, spring semester, 1954-55.

† Resigned, June 30, 1954.

- *ARTHUR BOWLES FERGUSON (1939), Ph.D.
Associate Professor of History Route 2, Guess Road
- GEORGE BURTON FERGUSON (1937), M.D.
Associate in Bronchoscapy 3938 Dover Road, Hope Valley
- BERNARD F. FETTER (1951), M.D.
Associate in Pathology 803 Demerius Street
- EDGAR BEAUREGARDE FISHER (1953), B.D.
Lecturer in Practical Theology 2000 Cedar Street
- WILEY DAVIS FORBUS (1930), M.D.
Professor of Pathology 3309 Devon Road, Hope Valley
- JOEL CLARENCE FORD, JR. (1953), B.S., Captain, U. S. Navy
Professor of Naval Science 2101 Myrtle Drive
- †LESTER R. FORD, JR. (1953), Ph.B., S.M., Ph.D.
Research Instructor in Mathematics 9 Fifth and Markham Avenue
- DURWOOD ANDREW FOSTER (1954), B.D.
Assistant Professor of the History and Philosophy of Religion Apartment 18, Alastair Court
- JOHN ALVIS FOWLER (1953), M.D.
Assistant Professor of Psychiatry 1-20-A Glen Lennox Apartments, Chapel Hill, N. C.
- ‡CARLYLE JAMES FRAREY (1952), M.S.
Assistant Professor in the Faculty of Arts and Sciences 819 Demerius Street
- RUSSELL A. FRASER (1952), Ph.D.
Instructor in English 908 Shepherd Street
- CHARLES DARBY FULTON, JR. (1950), Sc.D.
Assistant Professor of Mechanical Engineering 1507 Pettigrew Street
- WILLIAM J. FURBISH (1954), B.S., M.A.
Instructor in Geology 1821 Washington Street
- THOMAS MUIR GALLIE, JR. (1954), Ph.D.
Research Instructor in Mathematics 905 Exum Street
- CLARENCE ELLSWORTH GARDNER, JR. (1930), M.D., D.Sc.
Professor of Surgery 3106 Devon Road, Hope Valley
- WILLIAM HENRY GARDNER, JR. (1953), B.S. in C.E., M. Engg.
Assistant Professor of Civil Engineering 2108 Cole Road
- NORMAN GARMEZY (1950), Ph.D.
Associate Professor of Psychology 3423 Hope Valley Road
- OTTO H. GAUER (1953), M.D.
Associate Professor of Physiology and Pharmacology Route 1, Box 113
 Chapel Hill, N. C.
- W. SCOTT GEHMAN, JR. (1954), Ph.D.
Assistant Professor of Education 420 Carolina Circle
- NICHOLAS G. GEORGAIDE (1951), D.D.S., M.D.
Assistant Professor of Plastic Surgery 2417 Bruton Road
- JOHN JAY GERGEN (1936), Ph.D.
Professor of Mathematics 2803 Nation Avenue
- ALLAN H. GILBERT (1920), Ph.D.
Professor of English 503 Compton Place
- GEORGE G. GLOCKLER (1952), Ph.D.
Visiting Lecturer in Chemistry 121 Pinecrest Road

* Absent on sabbatical leave, 1954-55.

† Resigned, August 31, 1954.

‡ Resigned, October 31, 1954.

- *CLARENCE GOHDES (1930), Ph.D.
Professor of English 2614 Stuart Drive
- JOSEPH LEONARD GOLDNER (1950), M.D.
Associate Professor of Orthopaedics 906 Demerius Street
- JEWETT GOLDSMITH (1949), M.D.
Assistant Professor of Psychiatry 918 Monmouth Avenue
- SANFORD GOLDSTONE (1953), Ph.D.
*Associate in Clinical Psychology in the
Department of Psychiatry and Lecturer in
the Department of Psychology* 894 Louise Circle, Poplar Apartments
- WILLIAM LEWIS GORDON (1952), Ph.D.
Instructor in Mathematics 13 Fifth and Markham Avenue
- WALTER GORDY (1946), Ph.D.
Professor of Physics 2521 Perkins Road
- RICHARD BABSON GRANT (1952), Ph.D.
Instructor in Romance Languages 1016 Wells Street
- IRVING EMERY GRAY (1930), Ph.D.
Professor of Zoology 124 Pinecrest Road
- †FLETCHER M. GREEN (1953), Ph.D.
Lecturer in History University of North Carolina
Chapel Hill, N. C.
- EUGENE GREULING (1948), Ph.D.
Associate Professor of Physics 2414 Perkins Road
- KEITH SANFORD GRIMSON (1930-42; 1945), M.D.
Professor of Surgery 3313 Devon Road, Hope Valley
- PAUL MAGNUS GROSS (1919), Ph.D.
William Howell Pegram Professor of Chemistry 3816 Dover Road, Hope Valley
- JULIA REBECCA GROUT (1924), M.S.
Professor of Physical Education 804 Fourth Street
- WARREN J. GUSTUS (1954), Ph.D.
Instructor in Economics 818 Buchanan Boulevard
- NORMAN GUTTMAN (1951), Ph.D.
Assistant Professor of Psychology 854 Louise Circle, Poplar Apartments
- WILLY HAEBERLI (1954), Ph.D.
Visiting Assistant Professor of Physics Apartment B-1
Westover Park Apartments
- HOWARD N. HAINES (1943), B.S.
Visiting Assistant Professor of Civil Engineering 2307 Club Boulevard
- FRANK GREGORY HALL (1926-42; 1945), Ph.D.
Professor of Physiology and Pharmacology 122 Pinecrest Road
- HELEN ELIZABETH HALL (1954), M.D.
Associate in Anesthesiology 402 Buchanan Boulevard
- HUGH MARSHALL HALL (1952), Ph.D.
Instructor in Political Science 7 Duke University Apartments
- LOUISE HALL (1931), S.B. Arch., Ph.D.
Associate Professor of Architecture Box 6636, College Station
- JOHN HAMILTON HALLOWELL (1942), Ph.D.
Professor of Political Science 2709 Augusta Drive
- EDWIN CROWELL HAMBLIN (1931), M.D.
*Associate Professor of Obstetrics and Gynecology,
and Professor of Endocrinology* 810 Forest Hills Boulevard

* Absent on sabbatical leave, spring semester, 1954-55.

† Spring semester, 1953-54.

INSTRUCTIONAL STAFF

27

- WILLIAM BASKERVILLE HAMILTON (1936), Ph.D.
Professor of History 2256 Cranford Road
- PHILIP HANDLER (1939), Ph.D.
Professor of Biochemistry and Nutrition 2529 Perkins Road
- JOHN KENNEDY HANKS (1954), M.A.
Assistant Professor of Music 820 West Knox Street
- FRANK ALLAN HANNA (1948), Ph.D.
Professor of Economics 2239 Cranford Road
- OSCAR CARL EDVARD HANSEN-PRÜSS (1930), M.D. 3303 Surrey Road, Hope Valley
Professor of Medicine in Charge of Clinical Microscopy
- EARL THOMAS HANSON (1946), Ph.D.
Assistant Professor of Political Science 613 Swift Avenue
- ELLWOOD SCOTT HARRAR (1936), Ph.D.
Professor of Wood Technology 2228 Cranford Road
- JEROME SYLVAN HARRIS (1936), M.D.
Professor of Pediatrics, and
Associate Professor of Biochemistry 1007 Rosehill Avenue
- FRANCIS PARKS HARRISON (1947), Ph.D.
Assistant Professor of Physical Education 2722 Circle Drive
- HORNELL NORRIS HART (1938), Ph.D.
Professor of Sociology 2535 Perkins Road
- JULIAN DERYL HART (1930), M.D.
Professor of Surgery Route 1, Duke University Road
- DOUGLAS HARTLE (1954), M.A.
Instructor in Economics 1004 Carolina Avenue
- *GEORGE CORBIN HARWELL (1935), Ph.D.
Associate Professor of English 2115 Wilson Street
- *CHARLES ROY HAUSER (1929), Ph.D.
Professor of Chemistry 1020 Rosehill Avenue
- CAROLINE ELIZABETH HELMICK (1949), M.D.
Associate in Preventive Medicine and Public Health, and
Director of Student Health, Woman's College East Campus
- JAMES PAISLEY HENDRIX (1938), M.D.
Associate Professor of Medicine and Therapeutics 144 Pinecrest Road
- STEPHEN DUNCAN HERON, JR. (1950), M.S.
Assistant Professor of Geology Apartment 12, Duke University Apartments
- DUNCAN CHARTERIS HETHERINGTON (1930), Ph.D., M.D.
Professor of Anatomy K3B University Apartments
- ALBERT HEYMAN (1953), M.D.
Associate Professor of Medicine 910 Arrowhead Road
 Chapel Hill, N. C.
- JOHN BAMBER HICKAM (1947), M.D.
Associate Professor of Medicine 1020 Sycamore Drive
- ARTHUR OWEN HICKSON (1929), Ph.D.
Associate Professor of Mathematics Guess Road, Box 27
 West Durham Station
- DOUGLAS GREENWOOD HILL (1931), Ph.D.
Professor of Chemistry Box 275, Route 2, St. Mary's Road
- MARCUS EDWIN HOBBS (1935), Ph.D.
Professor of Chemistry 115 Pinecrest Road

* Absent on sabbatical leave, spring semester, 1954-55.

- JOHN HERBERT HODGES (1954), A.M.
Instructor in Mathematics Box 1139, Men's Graduate Center
- LESLIE BENJAMIN HOHMAN (1946), M.D.
Professor of Psychiatry 1520 Hermitage Court
- *BERNARD CLEVELAND HOLLAND (1948), M.D.
Associate in Medicine 705 Louise Circle, Poplar Apartments
- RAY WALTER HOLLAND (1947), M.S. in M.E.
Assistant Professor of Mechanical Engineering 2528 Glendale Avenue
- IRVING BRINTON HOLLEY, JR. (1947), Ph.D.
Assistant Professor of History 6 Duke University Apartments
- CHARLES M. HOLMES (1953), M.A.
Instructor in English 903 Shepherd Street
- FRANCES VIRGINIA LEE HOLTON (1947), M.A.
Assistant Professor of Physical Education 407 Erwin Apartments
- CALVIN BRYCE HOOVER (1925), Ph.D., Litt.D.
James B. Duke Professor of Economics 1702 Duke University Road
- †EDWARD CHARLES HORN (1946), Ph.D.
Assistant Professor of Zoology 2509 Cascadilla Street
- AUBREY THOMAS HORNSBY (1953), M.D.
*Assistant Professor of Radiology, and Chief of
the Radiological Department, Veterans Hospital* 420 Carolina Circle
- JOHN CHASE HOWELL (1954), M.A.
Instructor in Sociology Box 4463, Duke Station
- WAYLAND ELROY HULL (1953), Ph.D.
Assistant Professor of Physiology Apartment N-1, 819 Demerius Street
- HAROLD J. HUMM (1954), Ph.D.
Associate Professor of Botany 912 Monmouth Avenue
- DON DOUGAN HUMPHREY (1945), Ph.D.
Professor of Economics 2802 Legion Avenue
- MRS. WANDA SANBORN HUNTER (1947), Ph.D.
Associate Professor of Zoology 901 Mangum Street
- THELMA MARGUERITE INGLES (1949), R.N., M.A.
*Associate Professor of Nursing Education;
Director, Division of Nursing Education* 1412 North Duke Street
- WILLIAM HENRY IRVING (1936), B.A. (Oxon.), Ph.D.
Professor of English 2707 Legion Avenue
- THOMAS K. IVES (1954), B.S., Lieutenant, U. S. Navy
Assistant Professor of Naval Science 2 Willwood Apartments
Pratt Street
- ANN MADELINE JACOBANSKY (1953), R.N., B.S.N.E., M.Ed.
Professor of Nursing Westover Park Apartments
- MERLE E. JACOBS (1954), Ph.D.
Temporary Instructor in Zoology 801 Third Street
- ‡MARIANNA DUNCAN JENKINS (1948), Ph.D.
Associate Professor of Art 1026 Minerva Avenue
- HOWARD EIKENBERRY JENSEN (1931), B.D., Ph.D.
Professor of Sociology 143 Pinecrest Road

* Resigned, June 30, 1954.

† Absent on sabbatical leave, spring semester, 1954-55.

‡ Absent on leave, 1954-55.

- WALLACE NORUP JENSEN (1953), M.D.
Assistant Professor of Medicine L-26-D, Glen Lennox, Chapel Hill, N. C.
- FREDERICK CHARLES JOERG (1947), M.B.A.
Associate Professor of Economics 1400 Oakland Avenue
- DAVID SPIRES JOHNSON (1953), M.D.
Associate in Pathology Apartment 10-C, 2904 Erwin Road
- TERRY W. JOHNSON, JR. (1954), Ph.D.
Assistant Professor of Botany 825 Louise Circle, Poplar Apartments
- EDWARD ELLSWORTH JONES (1953), Ph.D.
*Assistant Professor of Psychology and
 Associate in Clinical Psychology in the
 Department of Psychiatry* 869 Louise Circle, Poplar Apartments
- ARCHIBALD CURRIE JORDAN (1925), M.A.
Assistant Professor of English 147 Pinecrest Road
- BRADY RIMBEY JORDAN (1927), Ph.D.
Professor of Romance Languages 117 Pinecrest Road
- HELEN LOUISE KAISER (1943), R.P.T.T.
Assistant Professor of Physical Rehabilitation 804 Fourth Street
- WILLIAM ARTHUR KALE (1952), B.D., D.D.
Professor of Practical Theology 1011 Dacian Avenue
- HARRY I. KALISH (1953), Ph.D.
Visiting Assistant Professor of Psychology 926 Lambeth Circle
- HENRY KAMIN (1948), Ph.D.
Associate in Biochemistry J3C University Apartments
- WALTER KEMPNER (1934), M.D.
Professor of Medicine 1505 Virginia Avenue
- *HAYWARD KENISTON (1952), Ph.D.
Visiting Lecturer in Romance Languages 214 Faculty Apartments
- VAN LESLIE KENYON, JR. (1945), M.M.E.
Associate Professor of Mechanical Engineering Route 2, Hillsboro, N. C.
- MRS. NANCY PEELER KEPPEL (1953), B.A.
Instructor in Physical Education 2729 Brown Avenue, Poplar Apartments
- GRACE PARDRIDGE KERBY (1947), M.D.
Assistant Professor of Medicine 707 Louise Circle, Poplar Apartments
- EILEEN DOROTHY KIERNAN (1952), R.N., B.S.N.E.
Instructor in Nursing of Prematures 920 Second Street
- GREGORY A. KIMBLE (1952), Ph.D.
Associate Professor of Psychology 1808 Hillcrest Drive
- WILLIAM KLENZ (1947), M.A.
Assistant Professor of Music 15 Alastair Court
- ROBERT J. KNIGHT, JR. (1952), B.S., Colonel, U. S. Air Force
Professor of Air Science and Tactics 2107 Wilson Street
- LOIS NINA KNOWLES (1953), R.N., B.S.N.
Instructor in Nursing Arts 2201 Woodrow Street
- RUTH M. KOCH (1953), M.S.
Assistant Professor and Counselor in the School of Nursing 224-226 Hanes House
- SIGMUND KOCH (1942-47; 1948), Ph.D.
Professor of Psychology Psychology Department

* Resigned, August 31, 1954.

- J. FRANK KOENIG (1954), M.S. in E.E.
Assistant Professor of Electrical Engineering 1700 Duke University Road
- SEYMOUR KORKES (1953), M.D.
Associate Professor of Biochemistry 3200 Guess Road
- CLARENCE FERDINAND KORSTIAN (1930), Ph.D.
Professor of Silviculture 4 Sylvan Road
- BARNET KOTTLER (1953), Ph.D.
Instructor in English 521 East Club Boulevard
- *PAUL JACKSON KRAMER (1931), Ph.D.
James B. Duke Professor of Botany 2251 Cranford Road
- ROBERT KRAMER (1947), LL.B.
Professor of Law 108 Pinecrest Road
- EDWARD KREADY KRAYBILL (1939), M.S.E.
Associate Professor of Electrical Engineering 2726 Circle Drive
- WILLIAM R. KRIGBAUM (1952), Ph.D.
Assistant Professor of Chemistry 2015 Woodland Drive
- †SOPHIA LOUISE KROK (1953), R.N., M.S.
Instructor in Medical Nursing Apartment C, 2209 Elder Street
- ‡ROBERT JOSEPH KUBISZEWSKI (1952), B.N.S., Lieutenant, U. S. Navy
Assistant Professor of Naval Science 814 Green Street
- GEORGE FREDERICK KUDER (1948), Ph.D.
Professor of Psychology 2516 Perkins Road
- EDWARD CHARLES KUNKLE (1948), M.D.
Associate Professor of Medicine in Charge of Neurology 2525 Perkins Road
- WESTON LABARRE (1946), Ph.D.
Associate Professor of Anthropology 1311 Alabama Avenue
- CREIGHTON LACY (1953), B.D., Ph.D.
Assistant Professor of Missions and Social Ethics 2009 Wa Wa Avenue
- CHARLES EARL LANDON (1926), Ph.D.
Professor of Economics 1514 Edgevale Road
- WILLIAM GUERRANT LANE (1952), Ph.D.
Instructor in English 1019 Dacian Avenue
- JOHN TATE LANNING (1927), Ph.D.
Professor of History 3007 Surrey Road, Hope Valley
- JOHN E. LARSH, JR. (1943), Sc.D.
Associate in Parasitology Duke Hospital
- ELVIN REMUS LATTY (1937), J.D., J.Sc.D.
Professor of Law 3620 Hathaway Road, Hope Valley
- DUNBAR LAWSON (1953), B.S., Lieutenant Commander, U. S. Navy
Assistant Professor of Naval Science 1012 Arnette Avenue
- BENJAMIN FRANKLIN LEMERT (1930), Ph.D.
Associate Professor of Economics 123 Pinecrest Road
- HAROLD WALTER LEWIS (1949), Ph.D.
Assistant Professor of Physics 2307 Sprunt Street
- MARTHA MODENA LEWIS (1933), M.A.
Associate Professor of Physical Education 407 Erwin Apartments

* Absent on sabbatical leave, spring semester, 1954-55.

† Resigned May 31, 1954.

‡ Resigned, August 31, 1954.

- RALPH ELTON LEWIS (1941), M.S. in M.E.
Assistant Professor of General Engineering 1401 Alabama Avenue
- CHARLES HARRIS LIVENGOOD, JR. (1946), LL.B.
Professor of Law 2804 Chelsea Circle, Hope Valley
- GEORGE TOWNSEND LODGE (1953), Ph.D.
Associate Professor of Psychology 804 Third Street
- ARTHUR HILL LONDON, JR. (1932), M.D.
Associate in Pediatrics 306 South Gregson Street
- *FREDERICK LONDON (1938), Ph.D., D. ès Sc.
James B. Duke Professor of Chemical Physics 1508 Oakland Avenue
- HANS LÖWENBACH (1940), M.D.
Professor of Psychiatry and Physiology Box 79, Route 3, Durham, N. C.
- CHARLES LUCIEN BAKER LOWNDES (1934), S.J.D.
James B. Duke Professor of Law 2016 Club Boulevard
- OSKAR HELGE LUNDHOLM (1930), Ph.D.
Professor of Psychology 803 Second Street
- †JOSEPH HOWARD McALISTER (1953), M.D.
Associate in Radiology 2759½ Guess Road
- ANGUS M. MCBRYDE (1931), M.D.
Associate Professor of Pediatrics 410 East Forest Hills Boulevard
- ‡JOHN P. MCBRYDE (1950), M.A., Lieutenant Colonel, U. S. Air Force
Associate Professor of Air Science 2524 State Street
- MRS. PAULINE WAYNE McCASKILL (1954), B.S.N.E.
Instructor in Medical Nursing 2611 Guess Road
- JOSEPH ADOLPHUS McCLAIN, JR. (1940), J.S.D., LL.D.
Professor of Law 2021 Myrtle Drive
- §GELOLO McHUGH (1946), Ph.D.
Assistant Professor of Psychology 1413 Watts Street
- LIONEL WILFRED MCKENZIE, JR. (1948), B.Litt. (Oxon.), M.A.
Associate Professor of Economics 1811 Forest Road
- JONATHAN COLLINS McLENDON (1952), Ph.D.
Associate Professor of Education 944 Lambeth Circle, Poplar Apartments
- LEWIS J. McNURLEN (1952), M.A.
Instructor in Sociology 1818 Glendale Avenue
- **SAMUEL D. McPHERSON, JR. (1949), M.D.
Associate in Ophthalmology 29 Oak Drive
- IAN O. MacCONOCHIE (1953), B.S. in M.E.
Instructor in Mechanical Engineering 1400 Alabama Avenue
- DOUGLAS BLOUNT MAGGS (1930), J.D., S.J.D.
Professor of Law 3940 Dover Road, Hope Valley
- JOHN MCCLELLAN MAJOR (1953), Ph.D.
Instructor in English 1102 Monmouth Avenue
- ALAN KREBS MANCHESTER (1929), Ph.D.
Professor of History 2016 Myrtle Drive
- JETHRO OATES MANLY (1952), B.S.
Instructor in Botany 907 Lambeth Circle, Poplar Apartments

* Died, March 30, 1954.

† Resigned, June 30, 1954.

‡ Resigned, July 31, 1954.

§ Absent on sabbatical leave, fall semester, 1954-55.

** Absent on leave, 1954-55.

- *EVERETT JAMES MANN (1950), M.B.A., C.P.A.
Associate Professor of Accounting 1712 Roxboro Road
- CLYDE LEONARD MANSCHRECK (1954), B.D., Ph.D.
Assistant Professor of Undergraduate Religion Apartment C-2
808 Green Street
- GEORGE MARGOLIS (1947), M.D.
Professor of Pathology 2417 Perkins Road
- JOSEPH ELDRIDGE MARKEE (1943), Ph.D.
James B. Duke Professor of Anatomy 1015 Demerius Street
- SIDNEY DAVID MARKMAN (1947), Ph.D.
Associate Professor of Art History and Archaeology 919 Urban Avenue
- MRS. ELSIE W. MARTIN (1930), M.S.
Professor of Dietetics 206 Faculty Apartments
- MRS. RUTH CAMPBELL MARTIN (1944), M.D.
Associate Professor of Anesthesiology and Assistant Anesthetist 113 Pinecrest Road
- SAMUEL PRESTON MARTIN (1949), M.D.
Associate Professor of Medicine and Assistant
Professor of Bacteriology 113 Pinecrest Road
- †MRS. JAY DAVIS MASSEY (1952), B.S., M.A.
Instructor in Physical Education 1609 Dexter Street
- LUCY ETHELYN MASSEY (1949), R.N., M.A.
Assistant Professor of Public Health Nursing Dawson Road, Chapel Hill, N. C.
- ‡FRANCIS WYNNE MASTERS (1952), M.D.
Associate in Plastic Surgery 2305 Elder Street
- WILLIAM CARY MAXWELL (1930), Ph.D.
Associate Professor of German 142 Pinecrest Road
- §OTTO MEIER, JR. (1934), M.S., E.E.
Associate Professor of Electrical Engineering 916 Monmouth Avenue
- ELIJAH EUGENE MENEFEE, JR. (1940), M.D.
Associate Professor of Medicine 2205 Cranford Road
- †MRS. ANN REID MERZBACHER (1952), A.B.
Instructor in Mathematics Box 801, Chapel Hill, N. C.
- M. VICTOR MICHALAK (1950), A.M.
Instructor in English 838 Louise Circle, Poplar Apartments
- FRANK KIRBY MITCHELL (1926), A.M.
Associate Professor of English 619 Swift Avenue
- ROBERT JOHN MONTFORT (1940), B.A.
Assistant Professor of Physical Education 3300 Cole Mill Road
- CLARENCE L. MORRISON (1954), B.S. in Business Administration,
Major, U. S. Marine Corps
Assistant Professor of Naval Science 923 Dacian Avenue
- EARL GEORGE MUELLER (1945), B.M., M.A., M.F.A.
Associate Professor of Art 1212 Virginia Avenue
- MRS. JULIA WILKINSON MUELLER (1939-41; 1946), M.A.
Assistant Professor of Music 1212 Virginia Avenue
- †MARY FRANCES MULDROW (1952), Ph.D.
Instructor in Romance Languages 1507 West Pettigrew Street

* Absent on leave, 1954-55.

† Resigned, August 31, 1954.

‡ Resigned, June 30, 1954.

§ Absent on sabbatical leave, fall semester, 1954-55.

- ROBERT J. MURPHY, JR. (1950), M.D.
Associate in Pediatrics Chapel Hill, N. C.
- HIRAM EARL MYERS (1926), S.T.M., D.D.
Professor of Biblical Literature 141 Pinecrest Road
- JACK DUANE MYERS (1947), M.D.
Associate Professor of Medicine 713 Anderson Street
- JAMES B. MYERS (1952), A.B., Major, U. S. Air Force
Assistant Professor of Air Science Duke Homestead Road
- MRS. JESSICA H. LEWIS MYERS (1950), M.D.
Associate in Medicine 713 Anderson Street
- GEORGE W. NACE (1951), Ph.D.
Assistant Professor of Zoology 2021 Pershing Street
- AUBREY WILLARD NAYLOR (1952), Ph.D.
Associate Professor of Botany 881 Louise Circle, Poplar Apartments
- GLENN ROBERT NECLEY (1946), Ph.D.
Professor of Philosophy 1700 Shawnee Street
- ERNEST WILLIAM NELSON (1926), Ph.D.
Associate Professor of History 939 Lambeth Circle, Poplar Apartments
- HENRY WINSTON NEWSON (1948), Ph.D.
Professor of Physics 1111 North Gregson Street
- WILLIAM McNEAL NICHOLSON (1935), M.D.
Professor of Medicine in Charge of Postgraduate Education, and Disease of Metabolism 824 Anderson Street
- WALTER MCKINLEY NIELSON (1925), Ph.D.
James B. Duke Professor of Physics 139 Pinecrest Road
- LOTHAR WOLFGANG NORDHEIM (1937), Ph.D., Sc.D.
Professor of Physics 2255 Cranford Road
- *WILLIAM K. NOWILL (1951), M.D.
Assistant Professor of Anesthesiology 2604 Glendale Avenue
- GUY LEARY ODOM (1943), M.D.
Professor of Neurosurgery 2812 Chelsea Circle, Hope Valley
- HOWARD T. ODUM (1954), Ph.D.
Assistant Professor of Zoology Apartment 1, Carolee Apartments
- †FRANK ROLAND OLSON (1953), M.A.
Instructor in Mathematics 907 Second Street
- JOHN BURWELL OLIVER (1952), Ph.D.
Instructor in History Box 4360, Duke Station
- HENRY JOHN OOSTING (1932), Ph.D.
Professor of Botany 2642 University Drive
- EDWARD STEWART ORGAIN (1934), M.D.
Professor of Medicine 3321 Devon Road, Hope Valley
- RODERICK B. ORMANDY (1953), M.A.
Assistant Professor of Medical Speech Pathology 2906 Erwin Road
- ROBERT TAPPAN OSBORN (1954), B.D.
Instructor in Undergraduate Religion 1922 Ward Street
- HARRY ASHTON OWEN (1951), B.E.E., M.S.E.
Assistant Professor of Electrical Engineering Hillandale Road

* Resigned, June 30, 1954.

† Resigned, August 31, 1954.

- AUBREY EDWIN PALMER (1944), B.S. in E., C.E.
Associate Professor of Civil Engineering 2519 State Street
- HAROLD TALBOT PARKER (1939), Ph.D.
Associate Professor of History 12 Glenn Apartments, Dacian Avenue
- JOSEPH B. PARKER, JR. (1953), M.D.
Associate Professor of Psychiatry, and
Chief of Psychiatry at Veterans Hospital 2921 Horton Road
- ROY PARKER (1954), M.D.
Assistant Professor of Obstetrics and Gynecology Duke Hospital
- OSCAR A. PARSONS (1954), Ph.D.
Assistant Professor of Psychology and
Associate in Medical Psychology 2204 Erwin Road
- JOEL FRANCIS PASCHAL (1954), LL.B., Ph.D.
Associate Professor of Law 1103 Anderson Street
- RANSOM RATHBONE PATRICK (1954), B.A., M.F.A.
Professor of Aesthetics and Art 403 Jackson Street
- SIMMONS ISLER PATRICK (1954), M.D.
Associate in Radiology K-2-D University Apartments
- RANDOLPH F. PATTERSON (1953), B.S., Lieutenant (j.g.), U. S. Navy
Assistant Professor of Naval Science 2011 Woodrow Street
- *ROBERT LEET PATTERSON (1945), B.D., Ph.D.
Professor of Philosophy Washington Duke Hotel
- †LEWIS PATTON (1926), Ph.D.
Associate Professor of English 614 Swift Avenue
- WILLIAM BERNARD PEACH (1951), Ph.D.
Assistant Professor of Philosophy 920 Dacian Avenue
- TALMADGE LEE PEELE (1939), M.D.
Associate Professor of Anatomy, and
Assistant Professor of Medicine E2B University Apartments
- †CHARLES HENRY PEETE, JR. (1953), M.D.
Associate in Obstetrics and Gynecology Alastair Court
- EDWARD JOSEPH PELLICCIARO (1954), Ph.D.
Research Instructor in Mathematics 1820 Forest Road
- KENNETH E. PENROD (1950), Ph.D.
Associate Professor of Physiology and Pharmacology, and
Assistant to the Dean of the School of Medicine 1815 Hillcrest Drive
- †EDMUND FRANKLIN PERRY (1950), Ph.D.
Assistant Professor of Undergraduate Religion 300 Swift Avenue
- HAROLD SANFORD PERRY (1932), Ph.D.
Associate Professor of Botany 2302 Cranford Road
- SOLOMON PAUL PERRY (1953), M.D.
Assistant Professor of Radiology 1212 Arnette Avenue
- ELBERT LAPSLEY PERSONS (1930), M.D.
Associate Professor of Medicine, and Associate Professor
of Preventive Medicine and Public Health 723 Anderson Street
- WALTER SCOTT PERSONS (1930), A.B.
Assistant Professor of Physical Education 612 Swift Avenue

* Absent on leave, February 1, 1955, through January 31, 1956.

† Absent on leave, 1954-55.

‡ Resigned, August 31, 1954.

INSTRUCTIONAL STAFF

35

- ERNST PESCHEL (1953), M.D.
Associate in Medicine 2306 Pershing Street
- JAMES E. PETERSON (1954), B.C.E., M.S.C.E.
Instructor in Civil Engineering 1024 Minerva Avenue
- RAY C. PETRY (1937), Ph.D., LL.D.
Professor of Church History 128 Pinecrest Road
- *CLINTON M. PETTY (1953), Ph.D.
Research Instructor in Mathematics J3A University Apartments
- OLAN LEE PETTY (1952), Ph.D.
Assistant Professor of Education 1509 Woodland Drive
- JOHN BERNARD PFEIFFER, JR. (1949), M.D.
Assistant Professor of Medicine N3B University Apartments
- †JAMES HENRY PHILLIPS (1946), Ph.D.
Associate Professor of Biblical Literature 2517 Perkins Road
- JANE PHILPOTT (1951), Ph.D.
Assistant Professor of Botany 804 Fourth Street
- HENRY FLOYD PICKETT (1935), A.B.
Associate in Medical Art and Illustration, and Photographer 2506 Cornwallis Road
- KENNETH LEROY PICKRELL (1944), M.D.
Professor of Plastic Surgery 3 Sylvan Road
- ROBERT FRANCIS PIERRY (1953), B.S. in C.E.
Instructor in Civil Engineering Route 1, Cornwallis Road
- HILDA PERSONS POPE (1948), Ph.D.
Assistant Professor of Bacteriology 886 Louise Circle, Poplar Apartments
- ‡FRANCIS ROSS PORTER (1930), B.S.
Superintendent of the Hospital and Professor of Hospital Administration Hillsboro, N. C.
- MARY ALVERTA POSTON (1930), A.M.
Associate in Bacteriology 512 Watts Street
- MARY POTEAT (1935), Ph.D.
Assistant Professor of English 103 Faculty Apartments
- BENJAMIN E. POWELL (1946), Ph.D. 3609 Hathaway Road, Hope Valley
Professor in the Faculty of Arts and Sciences
- LANIER WARD PRATT (1940), M.A.
Instructor in Romance Languages 2007 Ruffin Street
- RICHARD LIONEL PREDMORE (1950), D.M.L.
Professor of Romance Languages 2413 Perkins Road
- JAMES LIGON PRICE, JR. (1952), Ph.D.
Assistant Professor of Undergraduate Religion 2723 Circle Drive
- ALBERT ELSWORTH PUGH (1953), M.D.
Assistant Professor of Medicine and Chief, Professional Services, Veterans Hospital Staff Quarters, Veterans Hospital
- JAMES MINETREE PYNE (1949), B.S.
Assistant Professor of Hospital Administration and Assistant Superintendent of the Hospital 1832 Forest Road
- DAVID RABIN (1953), B.S. in M.E., LL.B., LL.M. (Pat.)
Instructor in Mechanical Engineering 3701A Manor Drive Greensboro, N. C.

* Resigned, August 31, 1954.

† Absent on sabbatical leave, fall semester, 1954-55.

‡ Absent on leave, October 1, 1954, to January 1, 1955.

- CHARLES WILLIAM RALSTON (1953), B.S., M.F., Ph.D.
Assistant Professor of Forest Soils 1010 Arnette Avenue
- ROBERT STANLEY RANKIN (1927), Ph.D.
Professor of Political Science 1107 Knox Street
- JOSEPHINE RAPPAPORT (1952), R.N., M.A.
Assistant Professor of Nursing Education Hanes House
- BENJAMIN ULYSSES RATCHFORD (1928), Ph.D.
Professor of Economics 133 Pinecrest Road
- * BENJAMIN SMITH READ (1952), B.A., Major, U. S. Marine Corps
Assistant Professor of Political Science 1023 Lakewood Avenue
- ISRAEL THOMAS REAMER (1931), Ph.G.
Associate in Pharmacy 2406 West Club Boulevard
- † KENNETH JAMES REARDON (1947), A.M.
Associate Professor of English 2610 Duke Homestead Road
- ‡ EMMETTE S. REDFORD (1954), Ph.D.
Visiting Professor of Political Science 809 Knox Street
- FREDERICK JEROME REED (1935), M.E., M.S.
Associate Professor of Mechanical Engineering 2203 Englewood Avenue
- ROBERT JAMES REEVES (1930), M.D.
Professor of Radiology 920 Anderson Street
- EDWIN KELSEY REGEN (1951), B.D., D.D.
Visiting Lecturer in Practical Theology 1106 Watts Street
- HUGO MANLEY REICHARD (1951), Ph.D.
Instructor in English 2 Duke University Apartments
- MRS. WALLY REICHENBERG-HACKETT (1946), Ph.D.
Assistant Professor of Psychology Route 1, Erwin Road
- * FREDERICK P. RENKEN (1950), B. Arch., Major, U. S. Air Force
Assistant Professor of Air Science 2523 State Street
- THOMAS D. REYNOLDS (1953), Ph.D.
Assistant Professor of Education Apartment M4, 815 Demerius Street
- JOSEPH BANKS RHINE (1927), Ph.D.
Director of Parapsychology Laboratory Hillsboro, N. C.
- McMURRY SMITH RICHEY (1954), B.D., Ph.D.
Assistant Professor of the Philosophy of Christian Education 4C Poplar Apartments, 944 Lambeth Circle
- JOHN A. RITCHIE (1953), M.D.
Associate in Psychiatry 1004 Carolina Avenue
- HENRY STOUTTE ROBERTS, JR. (1948), Ph.D.
Associate Professor of Zoology Box 221, Route 5, Duke Homestead Road
- JOHN HENDERSON ROBERTS (1931), Ph.D.
Professor of Mathematics 2813 Legion Avenue
- RACHEL LEE RODGERS (1954), B.S.N.E.
Instructor in Nursing Arts Apartment S2, 810 Demerius Street
- ELIOT H. RODNICK (1949), Ph.D.
Professor of Psychology, and Director of Clinical Training in Psychology 2806 Legion Avenue

* Resigned, August 31, 1954.

† Absent on sabbatical leave, spring semester, 1954-55.

‡ Fall semester, 1954-55.

- E. STANFIELD ROGERS (1952), M.D.
Associate Professor of Pathology 602 Ruby Street
- ROBERT SAMUEL ROGERS (1937), Ph.D., F.A.A.R.
Professor of Latin 148 Pinecrest Road
- THEODORE ROPP (1938), Ph.D.
Associate Professor of History 302 Woodridge Drive
- JESSE LEE ROSE (1936), Ph.D.
Associate Professor of Latin and Greek 915 Broad Street
- NORMAN F. ROSS (1937), D.D.S.
Associate in Dentistry Chelsea Circle, Hope Valley
- DONALD FRANCIS ROY (1950), Ph.D.
Assistant Professor of Sociology 904 Shepherd Street
- JOHN JESSE RUDIN, II (1945), Ph.D.
Associate Professor of Speech 1019 Rosehill Avenue
- MABEL F. RUDISILL (1948), Ph.D.
Associate Professor of Education 213 West Markham Avenue
- JULIAN MEADE RUFFIN (1930), M.D.
Professor of Medicine 816 Anderson Street
- RALPH WAYNE RUNDLES (1945), Ph.D., M.D.
Associate Professor of Medicine 132 Pinecrest Road
- REAMES HAWTHORNE SALES (1949), B.D., Ph.D.
Assistant Professor of Undergraduate Religion 2800 University Drive
- MURIEL I. SANDEEN (1950), Ph.D.
Assistant Professor of Zoology 706 Louise Circle
- CHARLES RICHARD SANDERS (1947), Ph.D.
Professor of English 103 Pinecrest Road
- *MRS. EUGENIA CURTIS SAVILLE (1947), M.A.
Assistant Professor of Music 1103 Anderson Street
- *LLOYD BLACKSTONE SAVILLE (1946), Ph.D.
Associate Professor of Economics 1103 Anderson Street
- JOHN HENRY SAYLOR (1928), Ph.D.
Professor of Chemistry 2500 Perkins Road
- THOMAS ANTON SCHAFER (1950), B.D., Ph.D.
Assistant Professor of Historical Theology 903 West Proctor Street
- CLARENCE HENRY SCHETTLER (1946), Ph.D.
Associate Professor of Sociology 119 Pinecrest Road
- HERMAN MAX SCHIEBEL (1939), M.D.
Associate in Surgery 1020 Anderson Street
- KNUT SCHMIDT-NIELSEN (1952), Mag.Sc., Ph.D.
Professor of Zoology 2402 Chapel Hill Road
- FRANCIS XAVIER SCHUMACHER (1937), B.S.
Professor of Forestry 6 Sylvan Road
- RUDOLPH MATHIAS SCHUSTER (1953), Ph.D.
Research Associate and Visiting Assistant Professor of Botany 1427 Broad Street
- THEODORE B. SCHWARTZ (1948), M.D.
Assistant Professor of Medicine 854 Louise Circle, Poplar Apartments
- †ESTHER LOUISE SCHWERMANN (1947), Ph.D.
Assistant Professor of English 909 Lambeth Circle, Poplar Apartments

* Absent on sabbatical leave, 1954-55.

† Absent on sabbatical leave, fall semester, 1954-55.

- GEORGE WILLIAM SCHWERT, JR. (1946), Ph.D.
Associate Professor of Biochemistry 611 Hammond Street
- WILL CAMP SEALY (1946), M.D.
Associate Professor in Charge of Thoracic Surgery Division 2232 Cranford Road
- WALTER JAMES SEELEY (1925), E.E., M.S.
James B. Duke Professor of Electrical Engineering 1005 Urban Avenue
- JAMES HUSTEAD SEMANS (1953), M.D.
Associate Professor of Urology 1415 Bivins Street
- DAVID GORDON SHARP (1939), Ph.D.
Associate Professor of Biophysics in Experimental Surgery, and Biophysicist to Duke Hospital 202 Francis Street
- LAMBERT ARMOUR SHEARS (1927), Ph.D.
Professor of German 917 Green Street
- *MILDRED MARGUERITE SHERWOOD (1930), R.N.
Associate in Pediatric Nursing Hanes House
- JOHN HERMAN SHIELDS (1926), A.M.
Associate Professor of Accounting 1315 Vickers Avenue
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Assistant Professor of Law 2902 Erwin Road
- WILLIAM WARNER SHINGLETON (1947), M.D.
Assistant Professor of Surgery 1510 Carolina Avenue
- JOSEPH ROBERT SHOENFIELD (1952), Ph.D.
Instructor in Mathematics 1003 East Trinity Avenue
- GEORGE ADDISON SILVER, III (1946), M.D.
Assistant Professor of Psychiatry 2005 Arbor Street
- ALBERT J. SILVERMAN (1953), M.D.
Associate in Psychiatry 622 West Markham Avenue
- EDWARD CHRISTIAN SIMMONS (1947), Ph.D.
Professor of Economics 2510 Perkins Road
- WILLIAM HAYS SIMPSON (1930), Ph.D.
Associate Professor of Political Science 1406 Dollar Avenue
- ALLAN P. SINDLER (1954), Ph.D.
Instructor in Political Science Route 1, Hillsboro Road
- †MARY CLYDE SINGLETON (1950), B.S., R.P.T.T.
Associate in Physical Therapy 819 Louise Circle, Poplar Apartments
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Associate in Pathology 826 Louise Circle, Poplar Apartments
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James B. Duke Professor of Bacteriology, and Associate Professor of Medicine 3437 Dover Road, Hope Valley
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Assistant Professor of Air Science 1425 Pennsylvania Avenue
- GROVER C. SMITH, JR. (1952), Ph.D.
Instructor in English 1109 North Gregson Street
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James B. Duke Professor of American Religious Thought 2721 Dogwood Road
- JOHN B. K. SMITH (1953), M.B., Ch.B., M.D.
Associate in Psychiatry Highland Hospital, Asheville, N. C.

* Absent on leave, 1954-55.

† Resigned, July 15, 1954.

INSTRUCTIONAL STAFF

39

- ROBERT SIDNEY SMITH (1932), Ph.D.
Professor of Economics 2236 Cranford Road
- MRS. SUSAN GOWER SMITH (1930), M.A.
Associate in Nutrition 3437 Dover Road, Hope Valley
- WILLIAM RODGER SMYTHE, JR. (1952), A.M.
Instructor in Mathematics 919 Second Street
- RAYMOND STEPHEN SORESENSEN (1952), M.S. in P.E.
Instructor in Physical Education 1009 Sycamore Street
- DOROTHY SPANGLER (1954), B.S., M.A.
Instructor in Physical Education 201 Faculty Apartments
- *JOSEPH JOHN SPENGLER (1934), Ph.D.
James B. Duke Professor of Economics 2240 Cranford Road
- HERTHA D. E. SPONER (1935), Ph.D.
Professor of Physics 3309 Avon Road, Hope Valley
- DALE FISHER STANSBURY (1946), J.S.D.
Professor of Law 1008 West Trinity Avenue
- EUGENE ANSON STEAD, JR. (1947), M.D.
Florence McAlister Professor of Medicine 2122 Myrtle Drive
- CHARLES RONALD STEPHEN (1950), M.D.C.M., D.A., R.C.P.&S.
Professor of Anesthesiology and Chief Anesthetist 1509 Carolina Avenue
- DAVID B. STEVENS (1951), LL.B., Captain, U. S. Air Force
Assistant Professor of Air Science 2121 Sprunt Street
- HARRY R. STEVENS (1947), Ph.D.
Assistant Professor of History University Apartments
- WILLIAM FRANKLIN STINESPRING (1936), Ph.D.
Professor of Old Testament 1107 Watts Street
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Associate Professor of Ophthalmology 1124 Forest Hills Boulevard
- MRS. JEAN STEVENS STOCKTON (1953-54; February 1, 1955)
Instructor in Physical Education 601 Watts Street
- CARL HENRY STOLTENBERG (1951), Ph.D.
Assistant Professor of Forest Economics 942 Lambeth Circle, Poplar Apartments
- PAUL CLINTON STOTTLEMEYER (1953), B.S. in C.E., M.S. in Hydraulic Engineering
Assistant Professor of Civil Engineering 835 Louise Circle, Poplar Apartments
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Instructor in Zoology and Assistant to the Director of the Duke University Marine Laboratory 857 Louise Circle, Poplar Apartments
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Assistant Professor of Chemistry 1013 Dacian Avenue
- WIPPERT ARNOT STUMPF (1948), Ph.D.
Associate Professor of Education 127 Pinecrest Road
- CHARLES WOODROW STYRON (1946), M.D.
Associate in Medicine 204 East Park Drive, Raleigh, N. C.
- ROBERT BURKE SUITT (1940), M.D.
Assistant Professor of Psychiatry 215 Faculty Apartments
- ELIZABETH READ SUNDERLAND (1939-42; 1943), Ph.D.
Associate Professor of Art 26 Alastair Court

* Absent on sabbatical leave, fall semester, 1954-55.

- LOUIS EARL SWANSON (1949), A.B.
*Assistant Professor of Hospital Administration,
 and Assistant Supervisor of the Hospital* 2610 Shenandoah Avenue
- GEORGE HERBERT SWIFT (1954), Ph.D.
Instructor in Mathematics EIC University Apartments
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James B. Duke Professor of History 116 Pinecrest Road
- CHESTER R. TAYLOR (1951)
Technical Associate in Experimental Surgery 519 East Club Boulevard
- HAYWOOD MAURICE TAYLOR (1930), Ph.D.
Associate Professor of Biochemistry, and Professor of Toxicology 2620 University Drive
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Instructor in Physical Education 144 Daniels Road
 Victory Village, Chapel Hill, N. C.
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Instructor in Civil Engineering Apartment 03, 821 Demerius Street
- JOSEPH MILLER THOMAS (1930), Ph.D.
Professor of Mathematics 2215 Cranford Road
- WALTER LEE THOMAS, JR. (1932-35; 1937-42; 1945), M.D.
Associate Professor of Obstetrics and Gynecology 3615 Dover Road, Hope Valley
- EDGAR TRISTRAM THOMPSON (1935), Ph.D.
Professor of Sociology 138 Pinecrest Road
- ROBERT L. THURSTONE (1953), M.S. in E.E.
Instructor in Electrical Engineering 400 Laurel Hill Road, Chapel Hill N. C.
- ELIAS TORRE (1951), M.A.
Assistant Professor of Romance Languages 1121 Anderson Street
- JAMES NARDIN TRUESDALE (1930), Ph.D.
Associate Professor of Greek 2804 Erwin Road, Poplar Apartments
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*Professor of Medicine, and Chief of Tuberculosis
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Professor of English 912 Green Street
- MRS. VIOLET HORNER TURNER (1943), M.D.
Assistant Professor of Obstetrics and Gynecology 2106 Cole Road
- RICHARD LOVEJOY TUTHILL (1953), Ed.D.
Professor in the Faculty of Arts and Sciences 1014 Gloria Avenue
- JOHN J. TYSON (1954), M.D.
*Assistant Professor of Hospital Administration,
 and Administrator of the Veterans Hospital* Veterans Hospital
- LUELLA JANE UHRHANE (1947), R.N., M.P.H.
Assistant Professor of Health Education 208 Faculty Apartments
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Temporary Instructor in Political Science Men's Graduate Center
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Associate Professor of Electrical Engineering 2730 Circle Drive
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Assistant Professor of Zoology 854 Louise Circle, Poplar Apartments
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Assistant Professor of Romance Languages 2218 Elba Street

* Died, March 2, 1954.

† Fall semester, 1954-55.

CLEMENT VOLLMER (1926), Ph.D. <i>Professor of German</i>	2114 Myrtle Drive
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* Absent on leave, 1954-55.

† Absent on sabbatical leave, spring semester, 1954-55.

‡ Resigned, August 31, 1954.

§ Absent on sabbatical leave, fall semester, 1954-55.

- RUTH JANET WIEN (1949), M.S.
Assistant Professor of Social Service H2B University Apartments
- KARL MILTON WILBUR (1946), Ph.D.
Professor of Zoology 2415 Club Boulevard
- LESLIE CLIFFORD WILBUR (1949), M.S.
Assistant Professor of Mechanical Engineering Route 3, Hillsboro, N. C.
- PELHAM WILDER, JR. (1949), Ph.D.
Assistant Professor of Chemistry 2525 Glendale Avenue
- ANNETTE VEVA WILLCOX (1954), A.M.
Instructor in Mathematics Bellaire Apartment 9, Pratt Street
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Instructor in Physical Education 211 Faculty Apartments
- JAMES WESLEY WILLIAMS (1937), A.B., B.S. in C.E., M.S.
Associate Professor of Civil Engineering 206 Swift Avenue
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Assistant Professor of English 808 Louise Circle, Poplar Apartments
- ROBERT MARSHALL WILLIAMSON (1951), Ph.D.
Assistant Professor of Physics 20 Meadowbrook Drive
- FREDERICK ELIPHAZ WILSON (1923), A.M.
Associate Professor of German 1020 Demerius Street
- JENNET MAE WILSON (1952), R.N., B.S.
Instructor in Obstetrics 402 Buchanan Boulevard
- ROBERT RENBERT WILSON (1925), Ph.D., LL.D.
Professor of Political Science 717 Anderson Street
- †WILLIAM PRESTON WILSON (1950), M.D.
Associate in Psychiatry Hillandale Road
- THOMAS G. WINNER (1948), Ph.D.
Assistant Professor of Russian Language and Literature 1813 Hillcrest Drive
- LOREN RALPH WITHERS (1949), M.S.
Assistant Professor of Music 8 Duke University Apartments
- *JAMES HENRY WOOD (1952), M.A.
Assistant Professor of Music 635 Cranford Avenue
- BARNES WOODHALL (1937-43; 1945), M.D.
Professor of Neurosurgery 4006 Dover Road, Hope Valley
- JAMES L. WOODRESS, JR. (1954), Ph.D.
Visiting Lecturer in English 1308 West Markham Avenue
- SAMUEL H. WOODS, JR. (1954), Ph.D.
Instructor in English 214 Faculty Apartments
- ROBERT HILLIARD WOODY (1929), Ph.D.
Professor of History 2648 University Drive
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Instructor in Physical Education 201 Faculty Apartments
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*Associate in Hospital Administration, and
Assistant Superintendent of the Hospital* Route 2, Hillsboro, N. C.
- WARREN GRICE YATES (1949), A.M.
Instructor in German 409 Carver Street

* Resigned, August 31, 1954.

† Resigned, June 30, 1954.

CHARLES R. YOUNG (1954), Ph.D. <i>Instructor in History</i>	105 West Edgewood Drive
KARL EDWARD ZENER (1928), Ph.D. <i>Professor of Psychology</i>	Route 2, Sparger Road
HALINA ZUKOWSKI (1950), R.N., B.S., M.L. <i>Assistant Professor of Psychiatric Nursing</i>	918 Monmouth Avenue

PART-TIME INSTRUCTORS

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MRS. ANNE MARIE BRYAN (1953), Baccalauréat, Lic. en Droit <i>Romance Languages</i>	814 Demerius Street
DONALD A. BUYSKE (1954), Ph.D. <i>Chemistry and Research Associate</i>	819 Demerius Street
WILFRED C. FAGOT (1954), M.S. <i>Physics</i>	620 Markham Avenue
HENRY GIDEL (1954), Agrégé de Lettres <i>Romance Languages and Research Associate</i>	Apartment 3, Vesson Street
CHESTER F. HWANG (1954), B.S.M.E. <i>Mechanical Engineering</i>	318 Clark Street
WILLIAM KEIRCE (1953), B.M.E., M.A. <i>English</i>	903 Shepherd Street
NANCY D. LIBBY (1954), M.A. <i>English</i>	Box 4310, Duke Station
MRS. ADELINE MCCALL (1954), M.A. <i>Music</i>	Box 843, Chapel Hill, N. C.
JOHN F. MAHONEY (1954), A.M. <i>Latin</i>	3 Fairview Road, Chapel Hill, N. C.
HARRY STOCKWELL MANLEY (1954), LL.B. <i>Assistant Instructor in Economics</i>	Duke University Apartments
ISAAC NEWELL (1953), B.A. <i>English</i>	604 Cleveland Street
WALTER G. SMITH (1953), B.S. in M.E. <i>Mechanical Engineering</i>	2842 Chapel Hill Road
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ROGER E. STANSFIELD (1954), M.S. <i>Chemistry</i>	901 Mangum Street
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BRUCE E. TEETS (1954), M.A. <i>English</i>	Box 5182, Duke Station
EUGENE H. THOMPSON (1952), M.A. <i>Romance Languages</i>	1417 Watts Street
JOHN ADDISON TUMBLIN, JR. (1954), M.A. <i>Sociology</i>	953 Lambeth Circle, Poplar Apartments

* Spring semester, 1953-54.

JOSEPH C. WOOD, JR. (1954), B.M., M.M.
Music

320B North Aycock Street
Greensboro, N. C.

DONALD PENNIMAN WYLIE (1952), M.B.A., J.D.
Visiting Assistant Professor of Mathematics

2602 Augusta Drive

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Assistant Editor

1013 Dacian Avenue

*MARK A. MOBLEY, B.D.
Assistant

734A Gimghoul Road, Chapel Hill, N. C.

Legal Aid Clinic

SUMTER C. BRAWLEY, JR. (1946), LL.B.

2305 Club Boulevard

SAMUEL F. GANTT (1954), LL.B.

1007 Gloria Avenue

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Fish Dam Road

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853 Louise Circle, Poplar Apartments

JACK C. WOODALL (1951), LL.B.

1405 Vickers Avenue

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Preacher to the University

2117 Myrtle Drive

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JOSEPH WILLIAM O'BRIEN, B.D.

Chaplain to Episcopal Students

903 W. Markham Avenue

* Resigned, September 15, 1954.

† Resigned, July 31, 1954.

‡ Resigned, August 31, 1954.

CONSTANCE F. PARVEY, B.A. <i>Advisor to Lutheran Students</i>	Aycock House
*EDWIN RUSSELL SPANN, B.D. <i>Chaplain to Methodist Students</i>	1019 West Markham Avenue
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CAROLINE E. HELMICK, M.D. <i>Director of Student Health, Woman's College</i>	East Campus Infirmary
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MRS. OLLIE PHILLIPS BURNETT, R.N. <i>Head Nurse, West Campus</i>	1404 Arnette Avenue
MRS. MARY EVA SCHOFIELD, R.N. <i>Nurse, West Campus</i>	307 North Gregson Street

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* Resigned, October 31, 1954.

† Resigned, May 31, 1954.

‡ Absent on leave, 1954-55.

§ Absent on sabbatical leave, 1954-55.

*ROBERT E. STIPE, LL.B.
Record Librarian

2114 Club Boulevard

LOREN RALPH WITHERS, M.S.
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 Greensboro, N. C.

Physical Education, Trinity College

EDMUND McCULLOUGH CAMERON (1926), A.B.
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2818 Chelsea Circle, Hope Valley

JAMES ROBERT BLY (1949), M.S.
*Assistant Professor of Physical Education; Coach
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2001 Ruffin Street

HAROLD L. BRADLEY (1950), B.S.
*Assistant Professor of Physical Education;
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1903 Washington Street

HERSCHEL AMOS CALDWELL (1930)
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ROBERT LEE CHAMBERS (1933), B.S. in Ed.
Coach of Varsity Track; Head Trainer

2311 Prince Street

ROBERT CALVIN COX (1942), M.A.
*Assistant Professor of Physical Education; Assistant Coach of
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ANTHONY CHARLES DRAGO, B.S. in P.E.
Instructor in Physical Education; Assistant Coach of Basketball

1003 Lamond Avenue

CARMEN M. FALCONE (1946), M.A.
*Assistant Professor of Physical Education; Coach of Varsity
 Wrestling; Assistant in Football*

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ELLIS P. HAGLER (1936)
Coach of Varsity Golf; Assistant Coach of Football

220 Forest Wood Drive

FRANCIS PARKS HARRISON (1947), Ph.D.
*Assistant Professor of Physical Education;
 Assistant Coach of Wrestling*

2722 Circle Drive

†DAN WINFIELD HILL (1945), A.B.
Assistant Athletic Director

2527 Glendale Avenue

CARL CLIFTON JAMES (1954), A.B.
Assistant to the Athletic Director

911 Lambeth Circle, Poplar Apartments

HUBERT MURRY LEWIS (1937), B.S.
Business Manager of Athletics

Pickett Road

ROBERT JOHN MONTFORT (1940), B.A.
Assistant Professor of Physical Education; Assistant Trainer

3300 Cole Mill Road

WILLIAM D. MURRAY (1951), A.B.
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2106 Myrtle Drive

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Assistant Coach of Football

233 Forest Wood Drive

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*Assistant Professor of Physical Education; Coach of
 Swimming; Coach of Lacrosse*

612 Swift Avenue

* Resigned, August 31, 1954.

† Resigned, June 30, 1954.

OTHER OFFICERS

47

- MARTIN T. PIERSON (1951), M.C.E.
Assistant Coach of Football 959 Lambeth Circle, Poplar Apartments
- RAYMOND STEPHEN SORESENSEN (1952), M.S. in P.E.
Instructor in Physical Education; Coach of Gymnastics 1009 Sycamore Street

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The Woman's College Auditorium

(from an etching by Louis Orr)

The Woman's College Auditorium, which encloses the north end of East, or the Woman's College, Campus, typifies the serene Georgian architecture amid which women students of the University live and work. The Woman's College campus is complete within itself, offering to its students the combined advantages of a small and intimate college which shares in the invigorating atmosphere of a larger and more cosmopolitan University.

Admission to the Colleges



CANDIDATES may qualify for admission as members of the freshman class or as students with advanced standing. Since the enrollment is limited, the Committee on Admissions selects students who, in its judgment, are best qualified to benefit from the educational advantages which the colleges offer. The Committee bases its decision on the academic record of the candidate, on test scores, and on satisfactory evidence of good character and general fitness for college life at Duke. A visit to the campus for a personal interview with an officer of the University is of material benefit to the candidate and the Committee.

ADMISSION TO THE FRESHMAN CLASS: A candidate for admission to the freshman class must present at least fifteen acceptable units of secondary school credit.

For admission to Trinity College and the Woman's College twelve of the fifteen units must be in English, foreign language, history* and social studies, mathematics, and science. They must include three units in English, one unit in algebra, and one unit in plane geometry. The three remaining units are elective and may be selected from those subjects for which the school allows credit toward graduation; but it is recommended that they also be selected from the five subject fields listed above.

For admission to the College of Engineering seven of the fifteen units must be in English (3 units), chemistry or physics (1 unit), algebra ($1\frac{1}{2}$ units), plane geometry (1 unit), and solid geometry† ($\frac{1}{2}$ unit). The remaining eight units are elective. At least five of them must be in English, foreign language, history and social studies, mathematics, and science. It is recommended that these five units be chosen from the following list:

English (in addition to the required 3 units).....		1 unit
Algebra (in addition to the required $1\frac{1}{2}$ units).....	$\frac{1}{2}$ to	$1\frac{1}{2}$ units
Trigonometry		$\frac{1}{2}$ unit
Biology or chemistry or physics (in addition to the required unit) ..	1 to	3 units
Foreign language	1 to	4 units
†History and social studies.....	1 to	4 units

The three additional units needed to make the total of fifteen may be selected from those subjects for which the school allows credit

* Candidates who do not present two acceptable units of history must take history in college.

† Students may be admitted with a deficiency in solid geometry, but the deficiency must be removed before the beginning of the sophomore year.

‡ Engineering candidates who do not present at least one acceptable unit of history must take history in college.

toward graduation; but it is recommended that they also be chosen from the above list.

A graduate of an accredited secondary school who submits fifteen acceptable units of credit, who is recommended by his school principal, and who in all other respects meets the requirements of the Committee on Admissions may be admitted without examination. A candidate whose graduation is from a non-accredited school or about whom there may arise any other question as to qualification for admission may be required to take entrance examinations or such other tests as the Committee on Admissions may prescribe.

It is recommended that all candidates for admission to the freshman class take the Scholastic Aptitude Test of the College Entrance Examination Board or a similar program of tests administered on the Duke campus by the Duke University Bureau of Testing and Guidance. Details of the procedure to be followed in applying for either of these testing programs will be sent to each candidate for admission.

ADMISSION TO ADVANCED STANDING: A candidate for admission to advanced standing must have fulfilled the equivalent of the requirements for admission to the freshman class, must present official transcripts of all work completed in other institutions, and must have an honorable dismissal from each institution previously attended. Advanced standing candidates who have previously taken the Scholastic Aptitude Test of the College Entrance Examination Board should request the Board to send a report of their test scores to the Director of Admissions. All others are advised to take the Scholastic Aptitude Test or the program of tests administered by the Duke University Bureau of Testing and Guidance, as recommended for freshman candidates.

Credit for work completed at other institutions will be determined in relation to the curriculum requirements of the college in which the student enrolls at Duke.

A student who transfers with advanced standing to Trinity College or the Woman's College from a junior college or from a four-year college not affiliated with a regional accrediting association must continue, for at least one semester in Trinity College or in the Woman's College, the foreign language he or she presents for minimum graduation requirements. Credit for courses in science offered for advanced standing in any of the undergraduate colleges by a transfer from a junior college or a non-affiliated four-year college will be determined by the departments concerned.

Transfer credits are tentatively evaluated pending the completion of two semesters of work in residence. To validate provisional credits the student must earn at least an average of C in a normal load of work. Transfer credit, in which grades of C or above have been earned, is rated at two quality points per semester hour when validated.

Courses in which grades of less than C have been earned are not acceptable for transfer credit.

The maximum amount of credit acceptable from a junior college is 60 semester hours, exclusive of physical education. No credit is given for work completed by correspondence, and credit for no more than six semester hours is allowed for extension courses. Any extension work accepted must be specifically approved by the dean of the college to which the student seeks admission.

ADMISSION OF SPECIAL STUDENTS: Upon the approval of the dean, students of mature age may be admitted for special work in such courses of instruction as they are qualified to take. They may not be admitted as candidates for a degree in a regular course unless they meet all normal requirements for admission.

ADMISSION PROCEDURE: Application for admission should be made to the Registrar, Duke University, Durham, North Carolina. Application forms and instructions will be sent to the candidate. It is the responsibility of the candidate to see that these forms are properly executed and, together with other requested material, sent promptly to the Office of Admissions.

Application prior to the final year of the secondary school course is not required. Formal steps looking toward admission should be initiated, however, early in the senior year. Candidates for admission are requested to file all credentials by March 1. Candidates for admission to the Woman's College normally will receive notification of the decision of the Committee on Admissions between April 15 and May 1. Candidates for admission to Trinity College and the College of Engineering will be notified as decisions are made.

READMISSION OF FORMER STUDENTS: A student who, following withdrawal from college, desires to return should apply to the Registrar. When applying for readmission the student should make a detailed statement of his or her activities since leaving Duke University.

Financial Information and Living Accommodations



FEES paid by the students cover only a part of the cost of their instruction and of the operations of the University. Income from endowment and contributions from the alumni, alumnae, and other public-spirited men and women meet the balance, which constitutes more than half the total cost.

Fees

A registration fee of \$20.00 is required of all new students. This fee is payable only once; it is not refundable. A room deposit of \$25.00 is also required of all new students. A tuition fee of \$225.00 and a general fee of \$75.00 are payable at the beginning of each semester. The general fee is in lieu of special fees usually charged for matriculation, use of laboratories, student health service, commencement, etc. Special fees for instruction in Applied Music are listed on page 109.

An advance deposit of \$25.00 is required of all students in residence at the time of spring registration in order to reserve a place in classes for the fall semester. This is applied toward payment of the general fee at the opening of the fall semester. The deposit will be refunded to students whom the University does not permit to return. Students who of their own volition fail to return are not entitled to a refund.

An advance deposit of \$25.00 is also required of old students who have been out of school for one or more semesters and have been accepted for readmission. It is applied toward payment of the general fee for the semester of readmission. The advance deposit is paid at the time of notification of acceptance and is not refundable.

An Air Force ROTC deposit of \$20.00 is required of students enrolling in Air Science to cover possible loss of military equipment issued to them. This deposit is refunded to the student upon return of issued equipment.

Refunds of tuition and other fees are made to students who withdraw within fourteen days after the beginning of the semester, with the exception of the advance deposits listed above. On and after the fifteenth day no refunds of fees are made. Stipulations governing the refunding of the \$25.00 room deposit are explained in the sections on Living Accommodations.

Students who register during the regular academic year for no

more than two courses with a maximum credit of 8 semester hours are classified as special students. They are charged a registration fee of \$5.00 for each course, and \$15.00 for each semester hour of course credit. Students taking nine or more hours are charged full fees.

Auditors are permitted to attend classes provided they secure the consent of the instructor. They submit no daily work, take no examinations, and receive no credit. Students taking a full program and paying full fees may audit one or more courses without charge. Students not paying full fees are charged \$10.00 for each course each semester.

Students are entitled to one transcript free of charge. Additional copies are supplied at \$1.00 each. Records are not released when the Treasurer's Office reports an unpaid account.

Students may have their bills sent to parents or guardians provided the Treasurer has been notified in writing with sufficient antecedence. Failure of a student or of a parent or guardian to pay bills on the dates scheduled will debar the student from class attendance until his account is settled in full; subsequent withdrawal does not entitle him to a refund. No student is considered by the Faculty as a candidate for graduation until he has settled with the Treasurer for all his indebtedness to the University. A student who has not settled all his bills with the Treasurer is not allowed to stand the final examinations of the academic year.

Estimated Expenses for an Academic Year

Incidental expenses depend upon the tastes and habits of the individual, but the estimated necessary expenses for an academic year are as follows:

	<i>Low</i>	<i>Moderate</i>	<i>Liberal</i>
Tuition	\$ 450.00	\$ 450.00	\$ 450.00
General Fee	150.00	150.00	150.00
Room Rent	175.00	175.00	225.00
Board	400.00	475.00	525.00
Laundry	30.00	40.00	50.00
Books	30.00	40.00	50.00
	<u>\$1235.00</u>	<u>\$1330.00</u>	<u>\$1450.00</u>

The actual fees and expenses necessary for one year in residence as a student in Trinity College or the College of Engineering can be met with \$1235.00.

Student Aid

Duke University is interested in students with ability and ambition. It is the aim of the University Scholarship Committee and others affiliated with the Student Aid Program to provide, insofar as possible,

the financial assistance required by worthy students. This assistance takes various forms. The actual cost to the University for each student is more than twice the amount received from the student. The deficit is paid out of contributions and income from endowment. Scholarships and prizes enable students with inadequate resources to reduce the amount payable to the University. Loans are made available, and through the Student Employment Offices part-time jobs are arranged. Through the Student Aid Program an earnest effort is made to eliminate the economic status of the student as a criterion for admission.

Scholarships

Scholarships intended to aid needy and deserving students have been established from time to time by persons deeply interested both in Duke University and in the members of its student body. Scholarship endowments are held in trust and are kept separate from other holdings of the University. All income is applied in accordance with the terms of the gift or bequest.

Scholarships are awarded annually by a committee of the Faculty appointed by the President of the University. In some cases donors have specified certain limitations and conditions, but in all cases final award is made by the University Scholarship Committee.

Candidates for competitive scholarship prizes should initiate applications during the fall semester of the senior year of study in secondary school. Instructions concerning the specific requirements and deadline dates will accompany the application materials sent to applicants for these awards.

Candidates for remissions of tuition and scholarship grants should submit applications by April 15 of the year prior to the academic year in which assistance is sought.

All applications for scholarship prizes, scholarship grants or remissions of tuition should be addressed to the Registrar, Duke University, Durham, North Carolina.

SCHOLARSHIP PRIZES: Certain scholarships are awarded annually to encourage as students young men and women who give outstanding promise of becoming leaders in their chosen fields of endeavor. Recipients of these awards are, in general, students whose superior intellect and excellence as scholars and leaders mark them as individuals who have the ability to influence and direct the course of affairs.

In considering applications for Scholarship Prizes, no weight is given by the Scholarship Committee to the financial situation of the candidate. The awards are based upon the proven merit of the individual rather than his need for financial assistance.

Thirteen Angier B. Duke Memorial Prizes of \$1,000.00 each are awarded annually to six men and three women who are residents of North Carolina, two men who are residents of South Carolina, and two men, residents of North or South Carolina, who are winners of at-large competitions. Any resident of the State of North Carolina or male resident of South Carolina who meets the stated requirements is eligible to apply regardless of where he or she prepares for college.

Six Duke University Regional Scholarships of \$1,000.00 each are awarded annually to male residents of designated regions listed below. Any qualified resident of a designated region will be eligible to apply regardless of where he prepares for college.

Region I: The District of Columbia; Albemarle, Clarke, Culpeper, Fairfax, Fauquier, Frederick, Greene, Highland, King George, Loudoun, Madison, Orange, Page, Prince William, Rappahannock, Rockingham, Shenandoah, Spotsylvania, Stafford, Warren, Westmoreland counties and the city of Alexandria in Virginia; Montgomery and Prince Georges counties in Maryland.

Region II: The state of Virginia excluding those counties comprising a part of Region I.

Region III: The state of Florida.

Region IV: The state of Georgia.

Region V: The state of Tennessee.

Region VI: The state of West Virginia.

Three Duke University National Scholarships of \$1,000.00 each are awarded annually to women. Any qualified applicant for admission to the Woman's College of Duke University will be eligible to apply regardless of where she prepares for college.

Scholarship Prizes are awarded for one year and are renewable from year to year for a maximum duration of four years, on the condition that the holder maintain scholastic average in the upper quartile of his or her class and further that he or she show evidence of developing the qualities of leadership which served as the basis for the original award.

Candidates for Angier B. Duke Memorial Prizes, Duke University Regional Scholarships, and Duke University National Scholarships must be eligible for admission to the freshman class of Trinity College, the College of Engineering, or the Woman's College in the ensuing academic year. A candidate must have attained scholastic standing in the highest quartile of his or her class as of the closing date of his or her most recently completed semester at the time of application.

Fifteen honorary tuition scholarships are awarded annually to undergraduates in residence. Five are awarded to members of the sophomore class, five to members of the junior class, and five to mem-

bers of the senior class on the basis of the scholastic work of the preceding year.

REMISSIONS OF TUITION: Certain students attending Duke University are entitled to a remission of the tuition charge. Students in one of the privileged groups listed below are entitled to a maximum of eight semesters of free tuition at the undergraduate level. Each Summer Session in which work is taken and each semester spent in another institution will be counted as one of the eight allowable semesters. Only those students enrolled in the regular undergraduate program leading to a baccalaureate degree from Duke University are entitled to a remission of the tuition charge.

The purpose of the remission program is to assist the students in these categories to obtain a baccalaureate degree. It is assumed, therefore, that these students will make normal progress toward graduation. Failure to do so does not entitle a student to consideration for more than the allowable eight semesters.

All students entitled to a remission of tuition must apply to the Executive Secretary of the Scholarship Committee for this consideration. Students failing to receive remission for any part of their period of undergraduate study are not entitled to retroactive consideration.

GROUP I: All students preparing to enter full-time religious work in a denomination maintaining a paid ministry are entitled to remission. Pre-Ministerial students are required to sign a note in the amount of their tuition at the beginning of each semester. The notes of all students from this group entering the ministry will be cancelled and returned to them. The notes of all students from this group failing to enter the ministry become due and payable with interest.

GROUP II: Children of ministers who are members of the North Carolina and Western North Carolina Conferences of the Methodist Church are entitled to remission as are the children of ministers of all faiths residing in Durham County, North Carolina. This consideration is given only to the children of resident members of the two North Carolina conferences who are giving their full time to religious work.

GROUP III: Remissions are given to the children, stepchildren, and adopted children of all staff members of Duke University in the following categories: (A) Staff members of the University listed in the catalog as "Officers of the University" who are employed on a full-time basis. (B) "Officers Emeriti." (C) Any deceased staff member of the University listed in the catalog as an "Officer of the University" employed on a full-time basis at the time of his or her death. (D) Deceased "Officers Emeriti."

ATHLETIC AWARDS: Duke University believes that a program of inter-collegiate athletics is a proper and desirable part of university life. Therefore, a limited number of Athletic Awards is available

for students participating in football and basketball. Only a part of the students on the team squads, however, hold awards. There are no athletic awards for participants in track, swimming, lacrosse, cross country, baseball, golf, tennis, soccer, wrestling, and gymnastics.

The Athletic Award covers only those items which are approved under the rules of the Atlantic Coast Conference and National Collegiate Athletic Association in which Duke University holds membership.

SCHOLARSHIP GRANTS: Although sufficient funds are not available to assist all applicants who present requests for aid, a substantial number of Scholarship Grants are made each year to able students who need financial assistance in order to meet the cost of attending college. Any candidate for admission, therefore, who considers himself or herself to be in such need is eligible to apply for a Scholarship Grant.

Applicants for Scholarship Grants will be required to submit a detailed statement of financial resources.

The following scholarship funds are available to undergraduates who apply for scholarship grants.

FRED SOULE ALDRIDGE SCHOLARSHIP FUND

Established December 1947 by gift of Fred S. Aldridge, '98, and Mrs. Fred Aldridge and supplemented by annual contributions from the Durham County Alumni; the income to be used for scholarship aid, preference to be given to young men from Durham County.

GEORGE G. ALLEN SCHOLARSHIP FUND

Established July 1947 by gift of George G. Allen; the income to be used for scholarship aid to deserving boys and girls from Warren County, N. C., and, under certain conditions, to other worthy students.

ALUMNAE SCHOLARSHIP FUND

Established May 1940 by the Alumnae Association, in connection with the celebration of the Centennial of Duke University; the income to be used for scholarship aid to young women students of the Woman's College.

ALUMNI MEMORIAL SCHOLARSHIP FUND

Established December 1943 by several donors in memory of alumni of Duke University who lost their lives during World War II; the income to be used for scholarship aid to worthy students.

ATLANTA ALUMNI SCHOLARSHIP FUND

Established May 1941 by gifts of members of the Alumni Association of Atlanta, Ga.; the income to be used for scholarship aid to worthy students.

ALICE M. BALDWIN SCHOLARSHIP FUND

Established June 1945 and supplemented from time to time by gifts from students and alumnae in honor of Alice M. Baldwin, Dean of the Woman's College, 1923-1947; also supplemented by a gift from the Class of 1951 of the Woman's College in memory of Berenice Lipscomb and Betsy Thorup; to be used for scholarship aid to undergraduate students in the Woman's College.

BANKS-BRADSHAW SCHOLARSHIP FUND

Established 1913 by gift of W. L. Banks and Mike Bradshaw, '78; the income to be used for scholarship aid to worthy students.

HERBERT J. BASS SCHOLARSHIP

Established 1900 by gift of Mr. and Mrs. Herbert J. Bass of Durham, N. C., in memory of their son, Herbert J. Bass, Jr.; the income to be used for scholarship aid to worthy students.

ROBERT SPENCER BELL PRIZE

Established in 1946 by James A. Bell, '86, in memory of his son Robert Spencer Bell; the income to be used for scholarships to a North Carolina student in each of the Freshman, Sophomore, and Junior Classes enrolled in Trinity College or the College of Engineering.

EDGAR S. BOWLING SCHOLARSHIP FUND

Established 1928 by gift of Edgar S. Bowling, '99, in memory of his sister, Mrs. Maye Bowling Bennett, '12; the income to be used for scholarship aid, preference to be given to boys and girls from Durham and adjoining counties.

FRANKLIN BROWN FAMILY SCHOLARSHIP FUND

Established 1954 by a gift from Mr. and Mrs. W. Franklin Brown; the income to be used for scholarship aid to worthy undergraduate students.

ELIZABETH CROWELL CARNES FOUNDATION

Established January 1948 by bequest of Elizabeth Crowell Carnes, in memory of her parents, Jonas William Crowell and Virginia Vick Crowell; the income to be used for scholarship aid for young men and women of Duke University.

CENTENNIAL SCHOLARSHIP FUND

Established 1939 by gifts from several donors in connection with the Centennial celebration of Duke University; the income to be used for scholarship aid to worthy students.

CHRISTIAN EDUCATION SCHOLARSHIP FUND

Established by various contributions designated for scholarships in the Christian Education Movement; includes contributions from Julian S. Carr, Mrs. Annie A. Foushee, C. T. Johnson, H. E. Myers, the Pegram Family, W. P. Suggs, E. T. White, Mr. and Mrs. J. C. Braswell and Mrs. R. C. Bruton, in memory of Alexander Walker; the Alumni of Harnett County, and others; the income to be used for scholarship aid to worthy students.

CLASS OF 1906 SCHOLARSHIP FUND

Established July 1937 by gifts from several members of the Class of 1906; the income to be used for scholarship aid to worthy students.

CLASS OF 1912 SCHOLARSHIP FUND

Established by gifts from several members of the Class of 1912; the income to be used for scholarships to worthy students.

CLASS OF 1914 SCHOLARSHIP FUND

Established December 1938 during the Centennial celebration of Duke University, by various members of the class; the income to be used for scholarship aid to worthy students, preference to be shown to descendants of the members of the Class of 1914.

CLASS OF 1918 SCHOLARSHIP FUND

Established by gifts from several members of the Class of 1918; the income to be used for scholarship aid to worthy students.

E. M. COLE FOUNDATION

Established 1920 by E. M. Cole, Charlotte, N. C.; the income to be used for scholarships for the benefit of undergraduate students preparing for the ministry.

ROBERT B. COX SCHOLARSHIP FUND

Established 1949 by gift of Robert L. Wolf and supplemented from time to time by other gifts; the income to be used for scholarship aid to undergraduate men.

WILL L. CUNINGGIM SCHOLARSHIP

Established 1934 by bequest of Mrs. W. L. Cuninggim, and supplemented by bequest of Mrs. Albert Bourne, in memory of Reverend Will L. Cuninggim; the income to be used for scholarship aid, preference to be given to graduates of the Methodist Orphanage, Raleigh, N. C.

ROSE M. DAVIS SCHOLARSHIP FUND

Established 1941 by Dr. Rose M. Davis; the income to be used for scholarship aid.

JERE R. DOWNING SCHOLARSHIP FUND

Established 1936 by Mrs. Alice M. Downing and her son, J. Robert Downing, '35, as a memorial to their husband and father, Jere R. Downing of Kennebunk, Me.; the income to be used for scholarship aid, preference to be given to students from New England.

B. N. DUKE SCHOLARSHIP FUND

Established 1939 by bequest of Sarah P. Duke in memory of her husband, Benjamin N. Duke; comprised of one-half of the income earned by the bequest of Sarah P. Duke to the B. N. Duke Endowment Fund; to be used for scholarship aid to worthy and needy students of Duke University.

DUKE UNIVERSITY SUNDRY SCHOLARSHIPS

Gifts by miscellaneous donors for current use as scholarships.

EDGERTON SCHOLARSHIP FUND

Established January 1953 by Mr. N. E. Edgerton, '21, through the Duke University Development Campaign; the income to be used for scholarship aid to worthy students, preference to be given to students from Wake County, North Carolina.

ENGINEERING SCHOLARSHIP FUND

Established by gifts of various persons; to be used for scholarship aid to engineering students.

WILLIAM P. FEW MEMORIAL SCHOLARSHIP

Established 1942 by gifts from various persons; to be used for scholarship aid to worthy students.

ARTHUR ELLIS FLOWERS SCHOLARSHIP

Established 1901 by Col. and Mrs. George W. Flowers, in memory of their son, Arthur Ellis Flowers; the income to be used for scholarship aid to worthy students.

GEORGE W. FLOWERS SCHOLARSHIP FUND

Established June 1927 by gift of Claude M. Flowers, '09, in memory of his father, Col. George W. Flowers, for many years a Trustee of Trinity College; the income to be used for scholarship aid to needy and worthy students.

ROBERT L. FLOWERS SCHOLARSHIP FUND

Established May 1939 by gift of R. L. Flowers; income to be used for scholarship aid to worthy students.

R. L. FLOWERS TRUST SCHOLARSHIP FUND

Established 1948 by bequest of Lily Parrish Flowers; the income to be used for scholarship aid for worthy students.

GENERAL UNIVERSITY SCHOLARSHIP FUND

Miscellaneous gifts from numerous persons; to be used currently for scholarship aid to worthy students.

GUILFORD COUNTY SCHOLARSHIP FUND

Established 1941 by miscellaneous gifts of several persons; the income to be used for scholarship aid to worthy students.

A. H. GWYN SCHOLARSHIP FUND

Established May 1941 by A. H. Gwyn, '18; the income to be used for scholarship aid to worthy students.

P. HUBER HANES SCHOLARSHIP FUND

Established 1939; consisting of $\frac{3}{5}$ of the income accruing annually to the P. Huber Hanes Fund; to be used for scholarship aid: one scholarship in the Divinity School; two scholarships to members of the families of alumni; and two general scholarships.

P. HUBER HANES, JR., SCHOLARSHIP FUND

Established 1939; consisting of 1/5 of the income accruing annually to the P. Huber Hanes Fund; to be used for two scholarships for junior or senior students majoring in Business Administration.

J. WELSH HARRISS SCHOLARSHIP FUND

Established May 23, 1950 by gift of J. Welch Harriss, '28, and supplemented subsequently by additional gifts; the income to be used for scholarships to deserving young men from High Point, N. C., entering the Freshman Class of Trinity College.

B. D. HEATH SCHOLARSHIP FUND

Established 1903 by B. D. Heath; to be used for scholarship aid to worthy students from Union County, N. C.

HIGH POINT SCHOLARSHIP FUND

Established by gifts of members of the High Point Alumni Association, in connection with the celebration of the Centennial of Duke University; the income to be used for scholarship aid to students who are graduates of the High Point, N. C., High School.

JONES CHAIR OF ENGINEERING

Established 1951 by Edwin L. Jones, Sr., '12; Annabel Lambeth Jones, '12; Edwin L. Jones, Jr., '48; Lucille Finch Jones; and the J. A. Jones Construction Company in memory of James Addison Jones and Raymond A. Jones; the income to be used for a professorship and/or for scholarship aid to worthy and qualified students in the College of Engineering.

HUNTER JONES SCHOLARSHIP FUND

Established December 1947 by gift of Hunter Jones, '19, Durham, N. C.; the income therefrom to be used for scholarship aid to worthy students.

HENRY HARRISON JORDAN MEMORIAL SCHOLARSHIP FUND

Established December 1938 by gifts from George Wav. B. Everett Jordan, '18, H. W. Jordan, Charles E. Jordan, '23, Mrs. H. C. Sprinkle, Jr., '24, and Frank B. Jordan, '27, in memory of their father, Reverend Henry Harrison Jordan, a member of the Western North Carolina Conference; the income to be used for scholarship aid to worthy students.

J. M. JUDD SCHOLARSHIP FUND

Established 1922 by J. M. Judd, '95, of Varina, N. C., with directions that the earnings be allowed to accumulate until such time as they are sufficient to provide a four-year tuition scholarship.

FRANK S. LAMBETH SCHOLARSHIP FUND

Established 1930 by bequest of Frank S. Lambeth, '80; the income to be used for scholarship aid to worthy students of Duke University.

D. M. LITAKER SCHOLARSHIP FUND

Established 1946 by gift of Charles H. Litaker, '28, in memory of his father, D. M. Litaker, '90, who for 47 years was an active minister in the Methodist Church; the income and, under certain conditions, a part of the corpus of the fund to be used for scholarship aid to undergraduate students, natives of the territory now embraced by the Western North Carolina Conference, who are preparing for the ministry.

MARY ELIZABETH DUKE LYON SCHOLARSHIP FUND

Established 1942 by Mary Washington Stagg, in memory of her mother, Mary Elizabeth Duke Lyon; the income to be used for scholarship aid to worthy students.

THE McALISTER SCHOLARSHIP FUND

Established December 1935 by Amelie McAlister Upshur in memory of her mother, Armatine Reynaud McAlister, and father, William Henry McAlister; the income to be used annually for a scholarship to one boy and one girl from each of the three states of North Carolina, South Carolina and Louisiana.

J. H. McCracken Memorial Scholarship Fund

Established 1947 by J. H. McCracken, '22, and contributions from members of the First Methodist Church of Henderson, N. C., in memory of Reverend J. H. McCracken, '92, for many years a member of the North Carolina Conference; income to be used for scholarship aid.

T. W. McCracken Scholarship Fund

Established 1945 by Thomas W. McCracken, '15; the income to be used for scholarship aid for worthy students.

The O. G. B. McMullan Scholarship Fund

Established 1913 by gift of O. G. B. McMullan of Elizabeth City, N. C.; the income to be used for scholarship aid to worthy students, preference to be given to residents of Perquimans and Pasquotank counties, N. C.

The Louise and C. K. Massey Scholarship Fund

Established 1953 by C. Knox Massey; to be used for scholarship aid to worthy students.

R. A. Mayer Scholarship Fund

Established 1939 by gift of R. A. Mayer, '96, in memory of his father, Minor C. Mayer, and mother, Sarah R. Mayer, in connection with the Centennial celebration of Duke University, and supplemented subsequently by additional gifts; the income to be used for scholarship aid to worthy students, preference to be given to students from Mecklenburg County, N. C.

W. H. Moore Scholarship Fund

Established 1920 in memory of W. H. Moore, '71, by his wife, Mrs. W. H. Moore, and daughters, Mrs. W. E. Steele, Miss Maude Moore, Mrs. T. L. Parsons, Mrs. J. H. Ihrle, and Mrs. J. LeGrand Everett; the income to be used for scholarship aid to worthy students.

Thomas R. Mullen, Jr., Scholarship Fund

Established April 5, 1949, by gift of T. R. Mullen in memory of his son; the income to be used for scholarship aid to worthy young men and women.

J. A. Odell Scholarship Fund

Established 1897 by gift of James A. Odell; the income to be used for scholarship aid to worthy students.

J. M. Odell Scholarship Fund

Established 1897 by gift of J. M. Odell; the income to be used for scholarship aid to worthy students.

W. R. Odell Scholarship Fund

Established 1940 by gifts from Fred C. Odell, '02, Mrs. Ralph M. Odell, Arthur G. Odell, '06, and others, in memory of William R. Odell, '75, for more than 50 years a member of the Board of Trustees of Duke University; the income to be used for scholarship aid to worthy students.

Henry A. Page Scholarship Fund

Established January 1942 by gift of Henry A. Page, Jr., '07, and Gertrude Wetherill Page, in memory of his father, Henry A. Page, for many years a member of the Board of Trustees of Duke University; the income to be used for scholarship aid to worthy students, preferably those preparing for the study of medicine.

Edward James Parrish Scholarship Fund

Established 1921 by Rosa Brown Parrish, in memory of her husband, Edward J. Parrish; the income to be used for scholarship aid to worthy students.

John T. Ring Scholarship Fund

Established 1919 by gift of S. G. Ring and family of Kernersville, N. C., in memory of John T. Ring, '16, who was killed in France during World War I; the income to be used for scholarship aid to worthy students.

T. V. ROCHELLE SCHOLARSHIP FUND

Established 1945 by T. V. Rochelle, '14, High Point, N. C.; the income to be used for scholarship aid to a worthy and needy student who is a graduate of the High Point, N. C., High School.

JOSEPH H. SEPAK MEMORIAL SCHOLARSHIP FUND

Established 1950 by gifts from friends in memory of Joseph H. Separk, for many years a member of the Board of Trustees of Duke University; the income to be used for scholarship aid to worthy students, preference to be given to students from Gaston County, N. C.

J. RAYMOND SMITH SCHOLARSHIP FUND

Established 1939 by J. Raymond Smith, '17, Mt. Airy, N. C., in connection with the Centennial celebration of Duke University; the income to be used for scholarship aid to worthy students.

MARY ALYSE SMITH SCHOLARSHIP FUND

Established December 1946 by Mary Alyse Smith, '30, of Burlington, N. C., and her father, Marvin B. Smith, for scholarship aid to worthy North Carolina boys or girls.

WILLIS SMITH SCHOLARSHIP FUND

Established 1939 by Willis Smith, '10, and supplemented from time to time; the fund to be used for scholarship purposes.

THOMASVILLE SCHOLARSHIP FUND

Established 1940 by gifts of T. Austin Finch, '09, and J. Walter Lambeth, '16, by contributions made through the Centennial Fund; the income to be used for scholarship aid to worthy students.

MARY NEWBY TOMS SCHOLARSHIP FUND

Established 1906 by gift of Clinton W. Toms and supplemented from time to time by additional gifts; in May 1947, in connection with supplemental gifts to the Fund, it was established as a permanent endowment in memory of his wife, Mary Newby Toms; the income to be used for scholarship aid to worthy students, preference to be given to students from Durham and Perquimans counties, N. C.

UNDERGRADUATE SCHOLARSHIP FUND

Established 1950 to provide scholarship aid to deserving students in the undergraduate colleges of Duke University. In 1951 this fund was increased by the income from several Scholarship Funds which were not restricted in their use.

GEORGE W. WATTS SCHOLARSHIP FUND

Established 1897 by gift of George W. Watts; the income to be used for scholarship aid to worthy students.

WEATHERBY SCHOLARSHIP FUND

Established 1912 by C. E. Weatherby, Faison, N. C.; the income to be used for scholarship aid to worthy students.

WEST CAMPUS CHEST SCHOLARSHIP FUND

Established 1954 by the male undergraduate students of Duke University for the purpose of providing scholarship awards to male students in one of the undergraduate colleges.

WOMAN'S COLLEGE MEMORIAL SCHOLARSHIP FUND

Established 1953 in memory of Evelyn Barnes, the income to be used for scholarship aid to worthy students in the Woman's College.

WOMAN'S PANHELLENIC SCHOLARSHIP FUND

Established May 25, 1949, by gifts of the Woman's College Panhellenic Association; income to be used for scholarship aid for a rising senior in the Woman's College of Duke University.

Loans

A number of loan funds have been established for the benefit of the students of Duke University. The most important and largest is the Angier B. Duke Memorial Student Loan Fund, which is administered through an advisory committee of officers of the University. The amount available to be loaned depends upon the income from investments and on the amount repaid on loans previously made to students. The same committee of officers administers the other endowed loan funds of the University.

The committee in approving loans selects those students who, from the standpoint of character, scholastic attainment, personality and degree of financial need, are deserving of consideration.

The following regulations govern the operation of the loan fund program:

1. No loan will be made to a student who violates any of the regulations of the University or whose academic record is not satisfactory to the faculty.

2. As a general policy, a student must have spent one semester in residence before he is eligible to apply for a loan. During this period the loan committee will have an opportunity to acquaint itself with the worth and need of the individual applicants.

3. Loans will be made only to students who are taking approved courses of study that lead to a degree, and all loans must be arranged for not later than one week after the beginning of a semester.

4. Every applicant for a loan must give the names of three references who will be approached by the student Loan Office. Statements from these references must have been received and made a part of the file before any money will be advanced. Neither of these references may be a member of a borrower's family.

5. Long term loans are customarily made to defray only the expenses incurred for tuition, fees, or room rent.

6. Interest on long-term student loans accrues at the rate of 1% from the date of each note and is payable during or before the week prior to the graduation exercise of each of the school years during which the borrower is enrolled at Duke University. After the student leaves the University permanently, the interest rate rises to 3% for the five year period required for payment. Any notes unpaid at the end of this five year period will bear interest at the rate of 6% until they are paid in full.

An extension of two years at the 1% interest rate is granted to those borrowers receiving a degree of Doctor of Medicine at Duke University. This extension covers the two year internship required of all medical students. An extension at the 1% interest rate is also granted to those

borrowers who continue their study in other institutions of higher learning. Proper proof of residence must be submitted annually to the Student Loan Office. Extensions of this sort will be renewed from year to year and the maximum period of extension will depend upon particular circumstance of each student.

7. Applications for loans should be made to the Loan Committee, Office of the Secretary, Duke University. A formal application for loan assistance may be made only on forms furnished in the Secretary's Office during the first week of each semester. The granting or withholding of a loan is a matter entirely within the discretion of the loan committee. A student is expected to use all other possible means of securing financial assistance before applying for aid from the Loan Fund.

ALBERT ANDERSON LOAN FUND

Established by the will of the late Albert Anderson; to be used for loans to worthy and deserving young men and women of the Methodist faith.

ALUMNI LOAN FUND

Established 1915 by gift from the Alumni Association.

ANGIER B. DUKE MEMORIAL LOAN FUND

A charitable trust established during the year 1925 by B. N. Duke in memory of his son, Angier Buchanan Duke, for the stated purpose of assisting needy and worthy students in obtaining a college education.

PAUL M. BARRINGER BEQUEST FUND

Established 1932 by bequest from Paul M. Barringer; the income to be used in educating worthy young people; preference to be given those from Rowan County, N. C.

BRANSON LOAN FUND

Established 1953 by bequest of Mrs. Clara S. Odell; the income to be used for loans to needy students.

BYNUM BELOTE LOAN FUND

Established 1924 by E. T. Belote of Asheville, N. C., in memory of his son, Alfred Bynum Belote, student 1923-24.

A. D. BETTS LOAN FUND

Established 1919 by G. W. Vicks, '11, and wife, in memory of Reverend A. D. Betts, a member of the North Carolina Conference; other contributions by W. A. Betts and Mrs. L. P. Wilkins; to be used for the aid of young men preparing for the ministry.

FANNIE CARR BIVINS MEMORIAL FUND

Established 1928 by the Alumnae Association in memory of Fannie Carr Bivins, '96; income to be loaned to young women students upon the recommendation of the Alumnae Council and approval by the dean of the Woman's College.

CHRISTIAN EDUCATION LOAN FUND

Established 1921 as a part of the Christian Education movement in the Methodist Church in North Carolina; for use as a general loan fund.

CLASS OF 1902 LOAN FUND

Established 1932 by the members of the class at their 30th Anniversary Reunion.

JESSE A. CUNINGGIM LOAN FUND

Established 1896 by J. A. Cuninggim, '90; to be loaned to young men preparing for the ministry.

ALEXANDER EDENS MEMORIAL LOAN FUND

Established 1920 by Lacy T. Edens, '24, Cora R. Edens, John A. Edens, L. D. Edens, '15 and L. F. Edens, in memory of Alexander Edens.

GENERAL LOAN FUND

Established 1900 by the North Carolina Conference, and supplemented from time to time by additional contributions by both the North Carolina Conference and the Western North Carolina Conference; to be used for no other purpose than to aid worthy students of the University.

W. O. GOODE EDUCATIONAL LOAN FUND

Established 1923 by W. O. Goode of the Western North Carolina Conference.

MARY HESTER HAMBRICK LOAN FUND

Established 1925 by W. R. Hambrick, Haldah Satterfield, John Jackson Hambrick, '16, and Robert T. Hambrick, '19, in memory of Mary Hester Hambrick, wife and mother; loans to be made to any needy students, preferably from Person County, N. C.

B. D. HEATH LOAN FUND

Established 1921 by B. D. Heath of Charlotte, N. C.; income to be used for students preparing for the ministry, preference to be given to one student annually from Union County, N. C.

HOLLAND HOLTON MEMORIAL LOAN FUND

Established March 1948 by friends and former students in memory of Holland Holton, '07, Professor of Education and Director of the Summer School of Duke University for many years; to be used in helping worthy young men and women in securing a college education.

J. B. IVEY LOAN FUND

Established 1922 by J. B. Ivey of Charlotte, N. C.; to be used for loans for worthy students.

W. K. KELLOGG FOUNDATION LOAN FUND FOR NURSES

Established 1942 by gift of the W. K. Kellogg Foundation; to be used for loans to students in the School of Nursing.

MINISTERIAL EDUCATION LOAN FUND

Established 1915 by the North Carolina Conference of the Methodist Church; to be used for loans to students preparing for the ministry.

WILLIAM NEAL STUDENT AID FUND

Established 1920 by John W. Neal in memory of his son, William Neal, student in 1919; to be used for loans to worthy and needy students.

NORTH CAROLINA CONFERENCE BOARD OF CHRISTIAN EDUCATION LOAN FUND

Established 1931 by gift of the Board of Christian Education of the North Carolina Conference; to be used for loans to students preparing for the ministry or other distinctive type of Christian service.

W. N. REYNOLDS LOAN FUND

Established by the late W. N. Reynolds, '86, of Winston-Salem, N. C.; to be used for loans to boys and girls of North Carolina seeking an education at Duke University; preference, however, to be given to graduates of the Nancy Cox Reynolds Memorial School, and the sons of employees of the R. J. Reynolds Tobacco Company, regardless of residence. In the discretion of the Executive Committee and under certain conditions, scholarships may be provided from the income from the fund.

ROANOKE RAPIDS HIGH SCHOOL LOAN FUND

Established 1925 by the graduating class of the Roanoke Rapids High School, Roanoke Rapids, N. C.; to be used for loans to students who are graduates of that school.

ELLA WESCOTT TUTTLE LOAN FUND

Established 1923 by D. H. Tuttle, '80, in memory of his wife, Ella Wescott Tuttle; to be used for loans to worthy young women seeking an education at Duke University.

JOSHUA VICK MEMORIAL LOAN FUND

Established 1920 by Mrs. J. W. Vick in memory of her husband, Joshua Vick; to be used for loans to needy students.

WAKE COUNTY ALUMNAE LOAN FUND

Established 1924 by the Raleigh Chapter of the Alumnae Association; to be used for loans to worthy women students.

HENRY CARSON WEST LOAN FUND

Established 1954 by gift from H. Carson West, '17, to provide loans for upper-classmen from North Carolina.

WINSTON-SALEM DISTRICT OF NORTH CAROLINA CONFERENCE LOAN FUND

Established 1923 by the Winston-Salem District of the Western North Carolina Conference of the Methodist Church; to be used for loans to students preparing for the ministry from the Winston-Salem District.

MARY POAGE WOOTEN LOAN FUND

Established 1922 by John C. Wooten, '98, in memory of his wife, Mary Poage Wooten; to be used for loans to worthy students.

Student Employment

Student employment offices are maintained to serve students who need part-time jobs. There are many opportunities both on the campus and in the city of Durham, and a considerable number of students each year help defray their college expenses by working.

Students may make application for part-time employment only after they have completed an application for admission and notification of acceptance has been given. The job application should be by letter prior to the reporting date for entrance, and a detailed job application form must be completed at the time of arrival at Duke University.

Those students in Trinity College and the College of Engineering in need of such employment may apply to Mr. J. M. Dozier, 217 Allen Building, West Campus. Students in the Woman's College should apply to the Assistant Dean of Undergraduate Women, 108 East Duke Building, East Campus.

Living Accommodations for Men

Craven, Crowell, Few, and Kilgo Quadrangles on the West Campus are reserved for undergraduate men. These quadrangles contain thirty-three Houses designated by letters of the alphabet from House A through House HH. The rooms are equipped as single and as double rooms. In some areas communicating doors between rooms provide suites for three or four persons. Kilgo and a part of Crowell Quadrangle are reserved for members of the Freshman Class.

Undergraduate men are required to live in the residence houses unless they are married or are living with parents or relatives. Any exception must be approved by the Dean of Men.

The rental charge for a single room is \$225.00 for the academic year, or \$112.50 each semester. The rental charge for a double room is \$350.00 for the academic year, or \$175.00 for each occupant, or \$87.50 for each occupant each semester. Rooms are rented for a period of not less than one semester, or in case of a medical student, one quarter, unless by special arrangement with the Housing Bureau. For a shorter period of occupancy, without special arrangement, the rate is \$1.00 per day with a minimum charge of \$25.00.

Room reservations are made through the Housing Bureau only after official acceptance for admission to the University. A \$25.00 room deposit is required of each applicant before a room reservation is made. The initial room deposit is effective during the student's residence in the University if his attendance is continuous in regular academic years. This deposit will be refunded under the following conditions:

- a. Within thirty days after the student has been graduated.
- b. Upon withdrawal from the University, provided written notice is received in the Housing Bureau by August 1, for cancellation of a reservation for the fall semester; and not later than January 15, for cancellation of a reservation for the spring semester.
- c. When the reasons requiring withdrawal are beyond the student's control.

No refund is made until the occupant has checked out of his room through the Housing Bureau and has settled all of his accounts with the Treasurer.

A resident student, in order to retain his room for the succeeding academic year, must make application at the office of the Housing Bureau for confirmation of the reservation in accordance with the plan that is published during the school year.

Any exchange of rooms must be arranged at the Housing Bureau. A charge of \$2.00 will be incurred for room changes made after September 1 in the fall and February 15 in the spring. Persons exchanging rooms without the approval of the Housing Bureau will be subject to charges for both rooms.

The authorities of the University do not assume responsibility for the persons selected as roommates. Each student is urged to select his roommate when the room is reserved.

Beds and mattresses (39" x 74"), tables, chairs, dressers, mirrors, and window shades are furnished by the University. The student supplies linens, blankets and pillows. Rugs, if desired, are not to exceed 54 square feet in size.

Duke University desires to provide for its students a residential environment conducive to academic achievement, the development of high ideals, and sound character. The institution asks and believes that each student will cooperate in achieving these aims by arranging his personal belongings in an orderly manner, by caring for the buildings and furniture as he would do in his own home, and by observing a code based on gentlemanly behavior in an educational environment which demands respect for all residents. Regulations governing the occupancy of rooms will be supplied directly from the Housing Bureau when room reservations are made. Occupants are expected to abide by these regulations.

Living Accommodations for Women

Undergraduate women are required to live in Woman's College residence houses unless they are married or are living with parents or close relatives in the City. Under special circumstances, in the case of a mature student, the Dean may make an exception.

A counselor, who is a member of the Dean's staff, lives in each dormitory. She serves as adviser to individual students and, in cooperation with the student House Council, is responsible for the administration of the house.

The eight dormitories are alike in their organization. All four classes have full representation in each, approximately 30 spaces being reserved in each one for freshmen. Five of the dormitories, Alspaugh, Bassett, Brown, Giles, and Pegram, have both single and double rooms. Southgate and Jarvis have no single rooms, and Aycock has only a few.

Rooms are rented for the full school year, unless special arrangements are made in advance with the Dean of Undergraduate Women, but payment may be made by semester. Each occupant of a double room is charged \$200.00 for the school year or \$100.00 per semester; the occupant of a single room, \$250.00 for the school year or \$125.00 per semester. Normally the rent for a shorter period of occupancy than a semester is \$1.00 per day with a minimum charge of \$25.00.

Room reservations are made with the Woman's College Housing Bureau. An applicant who has been officially accepted may reserve a dormitory room by paying a room deposit of \$25.00. If this deposit is not made within ten days after she is notified of her acceptance, her admission is cancelled. The initial room deposit is effective for the entire college course of the student whose attendance during regular terms is continuous. This deposit will be refunded under the following conditions:

- a. Within thirty days after the student has been graduated.
- b. Upon the student's withdrawal from the University, provided

written notice is received in the Housing Bureau by August 1, for cancellation of a reservation for the fall semester; and not later than January 15, for cancellation of a reservation for the spring semester.

- c. When the reasons requiring withdrawal are beyond the student's control.

No refund is made until the occupant has checked out of her room through the Housing Bureau and has settled all of her accounts with the Treasurer.

Dormitory rooms are reserved by upperclass students in accordance with the plan that is published during the school year. All rooms that have not been reserved on or before the announced date will be considered vacant for the succeeding semester and will be assigned to others.

After a student has engaged a room, she is not permitted to move to another without the consent of the Woman's College Housing Bureau. A student leaving one room and occupying another without permission may be charged for both rooms for the entire semester. No student is allowed to rent or sublet her room to another occupant.

The Woman's College Housing Bureau selects a roommate for the new student who is assigned to a double room but has made no arrangements for a roommate. After a student has been in residence for one semester, however, she is responsible for obtaining and keeping a roommate if she continues to occupy a double room. If a student occupying a double room does not obtain a roommate within the time required—approximately two weeks after the beginning of the semester—she may be required to pay the rental consideration for the whole room.

Rooms are equipped with only the principal articles of furniture. The student provides her own linens, blankets, pillows, bedspreads, curtains, and lamps. She may supply additional articles such as scatter rugs and small tables or bookcases; but large rugs or overstuffed furniture, which make cleaning difficult, are prohibited.

Dining Service

The dining facilities on the West Campus include three cafeterias with multiple-choice menus, and the Oak Room where full meals and *a la carte* items are served. The cost for the academic year ranges from \$400.00 to \$500.00 depending on the tastes of the individual. On the East Campus dining halls are located in the Union and in Southgate. Resident women may not board elsewhere than at these halls. The charge for board is \$200.00 per semester, payable at the time of registration.

In the Men's Graduate Center there is a cafeteria with multiple choice menus and a Coffee Lounge where sodas and sandwiches are served from 11:30 A.M. to 11:00 P.M. The prices in these dining rooms are the same as on the West Campus.

It is hoped that present rates may be maintained. Charges, however, are necessarily dependent on costs of labor, foods, and materials, and some adjustment may be necessary.

Due to the large number of those served in the dining halls, it is not possible to arrange special diets for individual students. Special diet for the sick is served in the infirmary.

The Libraries



THE UNIVERSITY LIBRARIES, with 1,159,512 volumes and 1,550,000 manuscripts, provide exceptional resources and facilities for study and research by undergraduate and graduate students, and by visiting scholars. Between 40,000 and 50,000 volumes are added annually, and 71 foreign and domestic newspapers and 3,923 periodicals are received currently. A large collection of microfilms of rare books, newspapers, and periodicals is available.

A Chemistry library (16,000 volumes), Physics-Mathematics library (16,800), and Biology-Forestry library (51,000) are housed for convenience of use in the buildings of these departments. The libraries of the Schools of Divinity (67,000), Law (103,000), Medicine (56,200) and of the College of Engineering (21,300), are also shelved in the buildings of these schools, all on the West Campus.

The General Library, centrally located on the West Campus, has 727,000 volumes in all other fields. It is the principle working and research collection for students in the humanities and social sciences. The collection has been developed with care to support the work of the undergraduate curriculum and the more specialized needs of graduate and post-doctoral research. Basic collections of source materials are supported by the important publications of criticism and discussion. There are large collections of general periodicals, of the publications of European Academies, and of public documents of state, federal, and foreign governments, and international organizations. The newspaper collection (about 13,000 volumes and 4,300 rolls of microfilm) is particularly strong in papers from the states of the Atlantic seaboard, both North and South, with extensive holdings of Ante-bellum and Civil War papers of North Carolina, South Carolina, and Virginia.

The manuscript collections, relating chiefly to the South Atlantic region with particular strength in the Confederate period, is most extensive in the field of history, but it contains important source material on all phases of social and economic life as well as politics. There are groups of manuscripts in American and British literature, with a notable Walt Whitman collection, and a number of important mediaeval manuscripts, chiefly lectionaries and copies of the New Testament. Among many special collections of note are the Guido Mazzoni library of Italian and comparative literature, the Lanson Collection of French literature, Goethe and Dante collections, collections on

Brazil, Peru, Ecuador, and the Philippines, the Holl Church history library, eighteenth-century English poetry and prose, a Socialist collection, the Arents tobacco collection, the Thomas collection of books on Chinese history and culture, the George Washington Flowers Collection of manuscripts, books, newspapers, and pamphlets dealing with all phases of Southern history, and the Trent collection of Walt Whitman books and manuscripts.

The General Library building, which was modernized and enlarged in 1949, contains many special features which contribute to the preservation of material and facilitate their use by students and research workers. The book stacks, manuscripts, and rare book storage and reading rooms are air-conditioned. Two hundred and fifty carrels, some completely enclosed, are available in the stacks as places of study for graduate students. Graduates and advanced students are permitted access to the stacks upon application. On the ground floor are a newspaper reading room with a battery of microfilm reading machines and a microphotography laboratory with facilities for reproducing printed and other material. On the same floor are the manuscripts reading room and storage area. The first floor has periodical, graduate, and undergraduate reading rooms, the latter opening into an attractively furnished small library for recreational reading. In the north wing is the rare book reading room, with adjoining special collections rooms and storage stacks. The second floor houses the general reference and reading room, the circulation department and Main Loan Desk, and the Public Card Catalog, a union catalog of books in all the University libraries. There is also a catalog of the library of the University of North Carolina at Chapel Hill, whose books are available through inter-library loan.

On the East Campus, the Woman's College Library, in its attractive Georgian building, contains 101,500 volumes in an open stack collection, chiefly those most constantly needed in the undergraduate work of women students. A reference and general reading room, the Thomas Memorial Room, and the Booklovers' Room with open shelves of books for general reading, provide comfortable and attractive space for reading and study.

A "Student's Guide to the General Library" is available on request addressed to the Librarian of the University.

Reserve Officers Training Corps



THROUGH the Naval and Air Force Reserve Officers Training program the University is cooperating with the Department of Defense in the effort to provide a steady supply of well-educated officers for the active and reserve forces of the Nation.

The Naval Reserve Officers Training Corps

There are two basic programs through which students can qualify for Naval commissions upon graduation: one, the Regular Naval Reserve Officers Training Corps program, provides a maximum of four years in the University largely at government expense, followed by a temporary commission in the regular Navy or Marine Corps; the other, the Contract program, leads to a commission in the Naval Reserve or the U. S. Marine Corps Reserve.

The Regular Student—Scholarships are awarded on the basis of an annual nation-wide test and selection procedure. Students selected are appointed Midshipmen, USNR, and receive for a maximum of four years tuition, fees, and textbooks at government expense plus retainer pay at the rate of \$600 per year. The regular midshipman may take any course leading to a baccalaureate or higher degree with certain exceptions, e.g., pre-medicine and medicine, pre-theological and theological, music and art. His academic program must include 24 semester hours of naval science and a minimum of 3 semester hours of physics. In addition, 3 semester hours of trigonometry will be required if he has not previously completed such a course in a secondary school. The Regular goes on two summer training cruises aboard ship and receives aviation and amphibious indoctrination at naval shore stations the third summer.

Upon graduation he must accept a commission as Ensign, USN, or Second Lieutenant, USMC, if offered, after which he serves on active duty with the fleet for three years, if required by the Secretary of the Navy. Toward the end of the required active duty, he may request retention in the regular Navy or Marine Corps, or at his option be commissioned in the Reserve. Officers commissioned in the Reserve under such an option may be released to inactive duty except in times of national emergency.

The Contract Student—The contract student is selected from those regularly enrolled in Duke University who desire to qualify for a commission in the Naval or Marine Corps Reserve while pursuing their

normal courses of study. There is no restriction on the course of study which a contract student may pursue; nor is he required to take college physics while in the program. He must include in his academic program trigonometry (if not successfully completed in secondary school) and 24 semester hours of naval science. He has the status of a civilian who has entered into a mutual contract with the Navy and is not eligible for the benefits and retainer pay received by regular midshipmen. He is paid a subsistence allowance during his last two years in the NROTC, however, amounting currently to 90 cents per day. He goes aboard ship for one summer training cruise, normally between his junior and senior years. Upon graduation, he is commissioned in the Naval or Marine Corps Reserve and, if needed, reports for two years' sea service. Upon completion of the minimum active service requirements he may request transfer to the regular component of the Navy or Marine Corps, retention on active duty as a reservist, or transfer to the inactive reserve for a period of six years.

Both Regular and Contract midshipmen are deferred from Selective Service by virtue of their commitment to serve on active duty after graduation. The Navy furnishes necessary uniforms and equipment. Uniforms are worn only on drill days or other special occasions when prescribed by the Professor of Naval Science. Regular and Contract students receive the same instruction and wear the same uniforms. No distinction is made between the two, except in the handling of their records.

The Air Force Reserve Officers Training Corps

The unit functions as a regular department of instruction known as the Department of Air Science. It selects and trains students who possess the requisite character, intelligence, desire, and sense of duty to become Air Force officers.

For enrollment in the Basic Course (freshman and sophomore years) the student must: be a male citizen of the United States; be physically qualified under standards prescribed by the Air Force (due allowance will be made for defects which are correctible prior to the student's eligibility for appointment as a commissioned officer); be accepted by the institution as a regularly enrolled student; be not less than 14 years of age and not have reached 23 years of age at the time of enrollment; must successfully complete such general survey and screening tests as may be prescribed; and must sign a loyalty certificate with the U. S. Government. Students initially entering the University who have had previous preparatory or high school military training are normally accepted in Basic Air Science at the same academic level as that in which they are accepted by the University.

For enrollment in the Advanced Course (junior and senior years) the student must have successfully completed the Basic Course or have had at least one year of honorable service in the Armed Forces of the United States; must execute a written agreement with the government to complete the Advanced Course *and accept a commission in the United States Air Force Reserve*, contingent upon remaining in school, and to attend the Advanced Summer Camp at the time specified; must agree to take orientation flights when offered; must be less than 28 years of age at the time of graduation; must successfully complete such general survey and screening tests as may be prescribed and be selected by the Professor of Air Science and the appropriate authority of the University.

All uniforms, texts, and training equipment required for the Air Science Course are furnished at government expense, and students are paid a total of approximately \$600.00 for the two years of the Advanced Course.

Since the primary need of the Air Force is for flying officers, the great majority of students selected for Advanced Air Science must be physically qualified and desirous of applying for flying training after graduation. Upon graduation and completion of the Advanced Course, selected students will be offered commissions as Second Lieutenants in the Air Force Reserve. Reserve Officers who desire lifetime careers in the Regular Air Force may apply for regular commissions after serving on active duty for one year.

Students in the Basic Course may be deferred from Selective Service upon satisfactory completion of one semester of Basic Air Science. Advanced students are eligible for deferment as soon as they are enrolled formally in the Advanced Course. Selection for deferment is made by a board composed of representatives from the AFROTC and the University.

The Bureau of Testing and Guidance



THE UNIVERSITY maintains a Bureau of Testing and Guidance which provides a centralized program of educational, vocational, and personal counseling for students. In addition, the Bureau administers special group testing programs for University schools and departments and serves as the local testing center for a wide variety of national testing programs. The Bureau also carries on programs of research in the field of measurement and counseling. Although the counseling, testing, and research services of the Bureau are designed primarily to meet the needs of the students, the faculty, and the staff

of Duke University, these services are made available to individuals and organizations outside the University as its facilities permit. Requests for further information should be addressed to the Director, Bureau of Testing and Guidance, Duke University, Durham, N. C.

Appointments Office



THE APPOINTMENTS OFFICE is a service agency designed to aid graduates in solving the problem of post-college employment. Its primary function is to serve as an intermediary between students and prospective employers. It acquaints students with possibilities in business and professional fields; it assembles comprehensive records on each registrant and makes these records available to appropriate representatives; and it arranges interviews with prospective employers. The data assembled for individual records include academic achievement, training, experience, extracurricular activities, and honors. On occasion additional information of a specialized nature is secured. Confidential letters of recommendation are incorporated in the file of each registrant. The Office initiates contacts for students or cooperates with students who make contacts through personal efforts or through various departments of the University. It aids the registrant in directing his search to a field appropriate to his aptitude, training, and interest.

There are two major divisions of the Office: the Commercial Division, which handles all matters involving contacts with business and professional areas not related to formal education; and the Educational Division, which concerns itself with teaching and school administration positions at all levels. Students and alumni may register with either or both of these divisions.

The Office receives more calls for qualified personnel than it can supply from its registrants. It is to the mutual advantage of the students and the Office that a complete record of registrants be assembled by the fall of the senior year.

The Summer Session



THE SUMMER SESSION at Duke University makes available to Duke undergraduate students and to undergraduates from other universities and colleges a notable program of instruction in many fields of knowledge both academic and professional.

Undergraduates in Duke University who desire to accelerate their programs may complete the work for a degree in three years by attending two and one-half summer sessions.

Undergraduates from other colleges and universities may enjoy the special advantages of summer instruction at Duke and transfer their earned credits to their own institutions.

The Summer Session of 1955, will include two six-week terms: Term I, June 14 to July 23; Term II, July 26 to August 31. By attending both terms it is possible for a student to earn as many as twelve semester hours of credit.

Instruction of interest to undergraduates will be offered in the summer of 1955 in the following departments and colleges: Botany; Chemistry; Economics; Education; Nursing Education; Engineering; English; Forestry; French; Geology; German; Greek; Health and Physical Education; History; Latin and Roman Studies; Mathematics; Philosophy; Physics; Political Science; Psychology; Religion; Sociology; Spanish and Zoology.

Distinctive features of Summer Session instruction are provided by the program in marine biology offered at the Duke Marine Laboratory, Beaufort, N. C., and by the School of Spanish Studies held on West Campus. The School of Spanish Studies (1955 will be its fourteenth session) offers unusual opportunities to students both undergraduate and graduate who seek proficiency in the active use of the language. Students and faculty live and board in the Residence and share in a Hispanic social program. Among the faculty are native professors and native student assistants. Everyone speaks Spanish. Courses are offered concurrently on the undergraduate and the senior-graduate level so that the student while acquiring oral facility in everyday living may also satisfy course requirements toward a degree.

While the basic purpose of the Summer Session is to serve the academic and the professional requirements of those who are interested in their own educational advancement, the University recognizes the need of, and provides for, a varied recreation program both athletic and social.

Undergraduates of Duke University both men and women who plan to attend the Summer Session should enroll with the Dean of their own college in Duke University. Undergraduates in other universities or colleges who seek transfer credits should apply directly to the Director of the Summer Session, Duke University, Durham, N. C.

Registration and Academic Regulations



ORIENTATION PROGRAM: All freshmen and transfer students are required to participate in the activities of Orientation Week. The program includes general ability, achievement, and placement tests, orientation lectures, physical examinations, social events, special religious services, registration, and enrollment.

The University considers the planning of a course of study to be of primary importance. Perhaps the most significant moments of Orientation Week, therefore, are those which a new student spends with his faculty adviser. With the results of the several tests which all freshmen take available to them, the adviser and the student plan a course of study adapted to the ability, achievements, and goals of the individual student. New students who miss the whole or a part of the Orientation Program place themselves at a serious disadvantage at the very outset of their college career.

MATRICULATION AND REGISTRATION: Students in residence are required to submit to the appropriate dean, not later than the date of the spring registration, cards showing their selection of courses for the following years. An advance deposit of \$25.00 is required before the card may be submitted. These cards, approved by the dean, are filed for permanent record in the dean's office. Students who do not select their courses for the following year at the time appointed must pay a fee of \$5.00 to the Treasurer of the University before their course cards may be approved for the fall. Students whose course cards have been approved in the spring may matriculate by mail during the summer. The same regulations, with the exception of the advance deposit, apply to registration for the spring semester.

Students who register in either semester at a date later than that prescribed in the calendar of this Bulletin must pay to the Treasurer a fee of \$5.00. They are counted as absent in the work they have missed in the courses to which they are admitted, and these absences carry the same penalty as do other absences from the course. Changes in courses for reasons not arising within the University require a payment of \$1.00 for each change made. No course may be elected later than one week after the opening of the semester, and no student may be admitted to any class without an official enrollment.

General Academic Regulations

QUANTITY CREDIT AND COURSE LOAD: The term of credit used is the semester hour which signifies one recitation a week throughout the semester. Two or three hours of laboratory work are equivalent to one hour of class work. Two semesters of seventeen weeks each constitute the academic year. For the degree of Bachelor of Arts or Bachelor of Science, credit for 124 semester hours is required; for a degree in Engineering, 148 semester hours.

The normal load of an undergraduate student in the Colleges of Arts and Sciences is five academic courses totaling 14 to 17 semester hours. The maximum number permitted is 19 semester hours, exclusive of physical education. In the College of Engineering the normal load is 18 semester hours exclusive of physical education. No student is permitted to take less than 14 semester hours of work without special permission from the dean or to take more than the normal load of work unless his average grade in the preceding semester is higher than C.

QUALITY CREDIT: The requirements for the degree are computed not only in semester hours but also in quality points. Quality points are determined by grades as follows: for an A, four quality points for each semester hour; for a B, three quality points for each semester hour; for a C, two quality points for each semester hour; for a D, one quality point for each semester hour; for an F, no quality points. Credit for at least 248 quality points is required for the degree of Bachelor of Arts or Bachelor of Science, and at least 296 quality points for a degree in Engineering.

REQUIREMENTS FOR CONTINUATION IN COLLEGE AND FOR GRADUATION FROM COLLEGE: To continue in college and to graduate, students must, in addition to the requirements listed elsewhere in this Bulletin, pass a minimum number of semester hours, achieve a specified quality point ratio, and in the case of graduation earn a minimum number of quality points. The quality point ratio is calculated by dividing the accumulated number of quality points earned by the accumulated number of semester hours carried (not semester hours passed). These requirements are listed in the following table:

For continuation from	The minimum requirement is
The first to the second year	18 s.h. credit and a q.p.r. of 1.2
The second to the third year	42 s.h. credit and a q.p.r. of 1.4
The third to the fourth year	66 s.h. credit and a q.p.r. of 1.6
The fourth to the fifth year, if needed	90 s.h. credit and a q.p.r. of 1.75
For graduation from	The minimum requirement is
Trinity and the Woman's College	124 s.h., 248 q.p. and a q.p.r. of 1.9
The College of Engineering	148 s.h., 296 q.p. and a q.p.r. of 1.9

The minimum standards for continuation in the College of Engineering are the same as those listed above but since the semester hour requirement for graduation in Engineering exceeds the requirement of the liberal arts colleges the standards may be adjusted to meet the special requirement of the college. Moreover, application of these standards is based on the courses required in the Engineering curriculum.

Students of the freshman class to remain in the University must pass at least 6 semester hours of work in their first semester and 18 semester hours in their first year. All other students must pass at least 9 semester hours each semester. The University may require a student whose record is considered unsatisfactory to withdraw, although he has met the minimum requirements set forth in this paragraph.

Reports on proficiency in academic work are sent to parents or guardians after the examinations at the end of each semester. In addition, reports on freshmen are mailed at each mid-semester period.

CLASS STANDING: In the Colleges of Arts and Sciences students to rank as sophomores must have to their credit at least 26 semester hours and 52 quality points; as juniors, at least 56 semester hours and 112 quality points; and as seniors, at least 92 semester hours and 184 quality points. In the College of Engineering they must have, respectively, at least 30 semester hours and 60 quality points; 68 semester hours and 136 quality points; and 106 semester hours and 212 quality points. Moreover, class standing within the College of Engineering is determined by the length of time necessary to complete the curriculum requirements for the particular degree in Engineering.

In the Colleges of Arts and Sciences seniors may not take for graduation credit any course open primarily to freshmen; and juniors may not take for graduation credit more than one course open primarily to freshmen. A list of these courses is published in this Bulletin under "Courses of Instruction."

Students of the senior class, irrespective of their average grade in preceding years, must, in order to be eligible for graduation, complete the work of their senior year with a minimum average grade of C. In the case of engineers the C average requirement applies not only to all courses taken in their last year but also to work specified for the senior year in their particular Engineering curriculum. Seniors who lack not more than 9 hours at the beginning of the last semester of their senior year may, with the approval of the Dean of the Graduate School, register for a maximum of 6 semester hours of graduate credit.

A tentative list of all candidates for the Bachelor's degree is prepared under the supervision of the dean as early in the college year as possible. A copy is furnished to each department of instruction

for information and reference, and a copy is posted on the official bulletin board of the University for the information of the students concerned.

RESIDENCE REQUIREMENTS: A minimum of 30 semester hours of senior-level work in the Colleges of Arts and Sciences and 36 in the College of Engineering must be earned in residence. Students who meet this requirement but who still lack 6 to 8 semester hours in final fulfillment of requirements may take this work in another institution of approved standing, provided the course is approved by the head of the department concerned and by the dean.

Students who complete in a summer session the work required by the University for the Bachelor's degree will be granted the degree at the end of the summer.

GRADING, ATTENDANCE, REPORTS, DISMISSAL, AND EXAMINATIONS:

GRADING: Grades are reported to indicate one of the following:

(1) *Passed.* A, B, C, and D are all passing grades. The letters are intended to indicate the following quality of work: A, exceptional; B, superior; C, medium; D, passing.

(2) *Failed.* A grade of F indicates that the student has failed the course, and in order to receive credit for the course he must repeat the work in class.

(3) *Incomplete.* (a) A grade of I may be reported by the instructor if for any reason he is unable to report the final grade at the regular time. (b) Incomplete courses must be completed before the close of the succeeding semester; otherwise the I is recorded as F, and the course must be repeated in class if the student is to receive credit for it.

(4) *Absent from final examination.* (a) The grade X indicates that the student was absent from the regularly scheduled examination. (b) If absence from the examination has been excused by the dean of the college, the student may receive an examination upon the payment of a fee of \$3.00 to the Treasurer of the University. The instructor concerned arranges for the examination in cases where absences are excused. (c) If absence from the examination is not excused by the dean of the college, the grade for the course concerned is recorded as F. (d) A student with an X grade who has not obtained a passing grade before the end of the semester following that in which the X was incurred is regarded as having failed in the course concerned and must repeat the work in class in order to receive credit.

If a student drops a course without permission from the dean, the grade for that course is recorded as F. If he drops with permission a course in which he is failing, the grade for that course is recorded as F unless, in the judgment of the dean, circumstances do not justify this penalty.

ATTENDANCE: Regular and punctual attendance in class work is expected of all students. Weekly reports of all absences, irrespective of class standing, are made by each instructor and filed in the dean's office. No instructor has the authority to excuse a student from class attendance; it is his duty to report all absences and tardies.

The requirements for continuation in college and for graduation from college emphasize the desirability of assumption by the student of responsibility for class attendance. Controls are exercised, therefore, during the first two years of college residence. Thereafter, full responsibility is placed on the student.

(1) *Regulations applicable during the first two years of college residence:* One unexcused absence per semester hour without penalty is allowed for personal obligations. Sophomores who in a normal schedule make averages of B or above in the preceding semester will be allowed two absences per semester hour for personal obligations, but will in all other respects be subject to the same regulations as other students.

The first three tardies in a given course are counted as one absence. Thereafter, each additional tardy is counted as one additional absence.

Absences due to illness when certified by a proper medical official will be excused. Absences due to authorized representation of the University may be excused. Officials in charge of groups representing the University are required to submit names of those persons to be excused to the appropriate dean's office forty-eight hours in advance of the hour when their absences are to commence. Absences due to individual and personal reasons will not be excused.

All absences immediately before and after announced holidays are counted as regular absences, but they result in a loss of two quality points for each absence in each class. Absences at the beginning of each semester are counted as double. Unexcused, consecutive absences, whether excessive or not, result in the loss of quality points as in the case of unexcused, excessive absences. Each excessive or consecutive absence results in the loss of quality points as follows: one quality point for the first absence, two additional for the second, and three additional for the third. When the third unexcused, excessive or consecutive absence occurs, the student is debarred from the course with a loss of six quality points and an F in the course. When the student has taken twelve absences, excused and unexcused, in any course he is required to drop the course unless the instructor and the dean concerned grant special permission for him to continue in the course.

When a student's course load is reduced, due to excessive absences, to less than 12 semester hours, he is required to withdraw from the University.

(2) *Regulations applicable after two years of college residence:* Responsibility for punctual and regular attendance is placed on juniors and seniors. However, for absences before and after announced holidays two quality points are deducted for each absence in each class. Instructors are expected to refer to the dean for appropriate action any student who in their opinion is causing his work or that of the class to suffer by virtue of absences or tardies.

EXAMINATIONS: Final examinations are held in all subjects in January and May.

DEFICIENCIES IN COMPOSITION: The following regulations have been adopted by the Faculty:

1. Any student who must take English 1 and whose score in the English placement test indicates that he is not yet ready for English 1 must earn a passing grade in English L before being permitted to enter English 1.

2. In the fall of the junior year every student of Trinity College and of the Woman's College must take an examination in English usage with the following exceptions: (a) students exempted from English 1 and (b) students who earned grades of at least B and C in English 1-2. The regulation does not apply to students of the College of Engineering, which has special course requirements in English composition in addition to English 1-2. Students with irregular schedules resulting from acceleration or transfer to Duke after the fall of their junior year should take the examination in the fall of the year most nearly approximating the fifth semester. In any event, all students with the exceptions noted above must take this examination; it is a requirement for graduation. If it is not taken in the junior year, it must be taken during the succeeding fall, or at such other time as may be designated by the appropriate authorities of the University. Students who are proved deficient by this examination will be required to complete satisfactorily a special non-credit laboratory course in remedial English.

3. Whenever the work of a student in any course is unsatisfactory because of errors in English, the instructor may report the student to the dean, who will require him to enroll in remedial English until, in the opinion of the director of the Remedial Laboratory, the deficiency is removed.

4. All instructors are requested to advise their students each semester concerning this regulation.



The School of Medicine

(from an etching by Louis Orr)

The tower entrance of the School of Medicine faces in upon the central quadrangles of the University Campus. Behind it are the classrooms and laboratories of the School and 600-bed Duke Hospital, which provides outstanding training facilities for medical students. Typical of all Duke graduate and professional schools, as well as the undergraduate colleges, the School of Medicine emphasizes quality rather than size.

Requirements for Degrees



DUKE UNIVERSITY offers, in Trinity College, the Woman's College, and the College of Engineering, courses of study which lead to the degrees of: Bachelor of Arts; Bachelor of Science; Bachelor of Science in Civil, Electrical, or Mechanical Engineering; and Bachelor of Science in Nursing Education.

Bachelor of Arts

The requirements for the degree of Bachelor of Arts are based on the principle that the student will derive the maximum benefit from his college work if his program includes a broad distribution of studies among representative fields of culture, concentration within a special field, and some work of his own choice.

For graduation with the degree of Bachelor of Arts, the following course work must be completed in accordance with the academic regulations as stated in this Bulletin.

UNIFORM COURSE REQUIREMENTS	S.H.
English	6
Foreign Language	6-18
Natural Science	11
Religion	6
Social Science and History	12
Literature, Music, Art, and Philosophy	6
Physical Education	4
MAJOR AND RELATED WORK	42
ELECTIVES TO MAKE A TOTAL OF	124

These requirements are described in detail below. Descriptions of courses can be found under "Courses of Instruction, Trinity College and the Woman's College."

ENGLISH, 6 s.h.—This requirement is met by the completion of English 1-2. Students who demonstrate proficiency in English usage may be allowed to substitute 55 or 56 for English 1.

FOREIGN LANGUAGE, 6 to 18 s.h.—This requirement is met by the completion of the third college year of a foreign language. The languages which meet this requirement are French, German, Greek, Latin, and Spanish. The number of courses required depends on previous training and ability as shown on placement tests. Students presenting for entrance four units of Latin may satisfy the language requirement by the completion of the third college year of Latin or by two years of Greek. In exceptional cases, on the recommendation of the language department concerned and with the approval of the dean, a student who has completed the second college year of one language may satisfy the requirement by the completion of the first year of another language.

NATURAL SCIENCE, 11 s.h.—To satisfy this requirement a student must complete a laboratory course (8 s.h.) in one of the natural sciences (botany, chemistry, geology, physics, zoology), and one course of at least 3 semester hours selected from mathematics (except Mathematics 1), logic and scientific methodology (Philosophy 48 and 104), or from the sciences listed above.

RELIGION, 6 s.h.—To meet this requirement 6 semester hours must be chosen from Religion 1, 2, 51, 52, 91, 94, 101, 103, 104, 114, 130, 132, 135, 181, 182.

SOCIAL SCIENCE AND HISTORY, 12 s.h.—To satisfy this requirement a student must complete 12 semester hours from the following basic courses: Economics 51-52; Education 84; History 1-2, or 51-52; Political Science 11-12, or 61-62, or 63-64; Psychology 91 to be followed if desired, by either Psychology 100 or 101; or Sociology 91-92. Six of the 12 semester hours must be taken in economics, history, political science, or sociology. Students who do not present for entrance two acceptable units of history must take History 1-2 or 51-52.

LITERATURE, MUSIC, ART, AND PHILOSOPHY, 6 s.h.—This requirement can be satisfied by a total of 6 semester hours in courses in English or American literature, foreign literature courses numbered above 100, literature courses in translation, courses in aesthetics, art, and music, and courses in Philosophy except 48, 103, 104, 109, 199.

PHYSICAL EDUCATION, 4 s.h.—Physical education is required during each of the first two years and is normally completed by the end of the sophomore year.

MAJOR AND RELATED WORK, 42 s.h.—Prior to registration in the spring of his sophomore year, each student is required to choose his major field and confer with his departmental adviser about the requirements for major and related work.

The major work consists of 18 to 24 semester hours in one department above the introductory courses. Introductory courses may consist of two one-semester courses in all departments except the Departments of German, Latin, and Romance Languages where the introductory courses may consist of four one-semester courses. The choice of courses must be approved by the major department. The related work must be taken in at least two other departments and is selected subject to the approval of the major department and the dean; it may not include more than one course of 6 or 8 semester hours open primarily to freshmen. Courses satisfying the uniform course requirements may also be counted toward the requirements in major and related work. Information on specific departmental requirements for major and related work can be found at the end of the department offerings in the section "Courses of Instruction." Several programs of study designed as preparation for professions are given in the section below entitled "Choice of a Major Field."

The total amount of work that a student may take in any one department toward the Bachelor of Arts degree is limited to a maximum of 36 semester hours. In the Department of Aesthetics, Art, and Music, and the Department of Philosophy, the Department of English, the Department of Economics, Accounting and Business Administration, and the Department of Romance Languages, a total of 54 semester hours is permitted, however, provided a total of not more than 36 semester hours is taken in any one division of the department.

ELECTIVES.—In addition to the uniform courses required and the major and related work, other courses must be completed to make a total of at least 124 semester hours, including 4 semester hours of physical education.

Students whose courses of study permit may elect a maximum of 18 semester hours in engineering, forestry, or medical science. The courses elected in these subjects must be approved by the major department and the dean of the college.

CHOICE OF A MAJOR FIELD

The requirement of 42 semester hours distributed, as specified above, between a major field and related work is based primarily on the belief that some advanced study in one subject, together with work in allied subjects, is a valuable part of a general education. The

selection of a major field usually depends on a student's cultural or vocational interests.

GENERAL PROGRAM

The General Program is designed for the student whose primary interest is in one of the liberal arts subjects. The subjects in which major work is offered are: art, botany, chemistry, economics, education, English, French, geology, German, Greek, history, Latin, mathematics, music, philosophy, physics, political science, psychology, religion, sociology, Spanish, zoology.

SPECIALIZED PROGRAMS

The student who has chosen a vocation may wish to include specialized training in his program. The following programs of study in preparation for various professions or professional schools are outlined for the guidance of the student.

BUSINESS: The student who plans to enter business may elect, in addition to the uniform course requirements, the following courses to satisfy the requirements for the Bachelor of Arts degree.

Freshman Year: Economics 11 (recommended but not required).
Mathematics 5 (recommended but not required).

Sophomore Year: Economics 51-52, Economics 57-58.

Junior Year: Economics 105, Economics 138, Economics 143, Economics 168, Economics 181, and one course selected from the following: Economics 144, Economics 147, Economics 158, Economics 182.

Senior Year: Economics 153, Economics 188, Economics 191, and one course selected from the Economics group numbered above 100.

ACCOUNTING: A student who plans to qualify to take the Certified Public Accountant's examination should elect the following courses of study:

Freshman Year: Economics 57-58 (may be taken at this time with the permission of the department).

Sophomore Year: Mathematics 5 and 16 (recommended but not required).
Economics 51-52, Economics 171-172.

Junior Year: Economics 143, Economics 153, Economics 173-174, Economics 181, 182.

Senior Year: Economics 144 or Economics 184, Economics 275-276, and two courses from the following: Economics 175-176, Economics 177, Economics 178, Economics 180.

A student who does not take Economics 57-58 in the Freshman Year must take the course in the Sophomore Year and must make the necessary adjustments in the sequence of subsequent accounting courses.

Students majoring in accounting are urged to familiarize themselves with the educational requirements of the State in which they expect to practice.

RELIGIOUS WORK: A student who plans to enter the ministry or other religious work should have a broad liberal arts training. He

may major in religion or any other subject. It is suggested that the student include in his program as many as possible of the following courses.

Freshman Year: Religion 1-2, History 1-2.

Sophomore Year: Religion (6 s.h.), Economics 51-52 or Political Science 61-62, English Literature (6 s.h.).

Junior Year: Religion (6 s.h.), Psychology 91, English 151-152.

Senior Year: Religion (6 s.h.), Sociology (6 s.h.), Philosophy (6 s.h.).

SOCIAL WORK: The student who plans to pursue professional studies in preparation for social work (such as family welfare, child welfare, public welfare, probation and parole, and similar forms of neighborhood and community work) should take his major work in sociology, with related work in other social sciences. The following courses should be included:

History 1-2, or 51-52.

Economics 51-52.

Political Science 61-62.

Psychology 91.

Philosophy (6 s.h.).

Zoology is recommended for the required course in Natural Science. Electives should be chosen mainly from history, economics, political science, education, sociology, philosophy, psychology, or religion.

TEACHING: The program for students who intend to teach is designed to prepare for positions both in the elementary school and in the high school. All prospective teachers, regardless of the type of school in which they expect to teach, (a) must take a sequence of four basic courses in the Department of Education, namely, Education 84, 88, 103, and 118; (b) should read carefully the certification requirements of the state in which they plan to teach and should arrange their programs with their departmental advisers accordingly; and (c) should begin early the required sequence of courses in education, taking Education 84, preferably during the sophomore year and Education 88 during the junior year.

HIGH-SCHOOL TEACHING. Students may meet certification requirements by qualifying in one teaching subject, but they are strongly advised to choose their electives to meet requirements in two teaching subjects. In any case their programs must include courses in education and in other subjects sufficient to satisfy the certification requirements of the state in which they will teach. Courses in materials and methods should be taken during the junior year; and courses in observation and practice teaching may be taken *only* in the senior year.

ELEMENTARY SCHOOL TEACHING. Students preparing to teach in the elementary school must complete the following specific requirements: Education 101-102, 142, and 161, History 91-92, and Political Science 11-12, or 63, or 61-62, Economics 115, Economics 109, or 118, or 120, Music 151, Physical Education 102, and Health Education 112.

Education 101-102 (which includes observation and practice teaching) should be reserved for the senior year.

PREPARATION FOR GRADUATE SCHOOL: The student who plans to enter a graduate school of arts and sciences for advanced study should consult an adviser in the field of the proposed advanced study concerning suitable preparation. Most graduate schools have definite requirements in foreign languages for all students. Candidates for the degree of Doctor of Philosophy are required to pass reading examinations, usually in German and French. In some cases other languages may be substituted. As soon as practicable, the student should ascertain the requirements of the particular graduate school he desires to enter.

PREPARATION FOR LAW SCHOOL: Students who plan to study law may select their major work in any field. The following courses are recommended:

Economics 51-52, 57-58.
English 55-56.
History 1-2 or 51-52, 105-106.
Philosophy 48 and 91.
Political Science 61-62.
Sociology 91-92.

PREPARATION FOR MEDICAL OR DENTAL SCHOOL:

Students planning to enter a medical or dental school should plan their programs of study from the first semester so as to include those courses required by the Medical Schools of their choice. Foundation courses for the study of medicine usually include: Chemistry 1-2, 61, 151-152; English 55-56; Mathematics 5, 6; Physics 51-52; and Zoology 1-2, 53.

Special advisers are available for pre-medical and pre-dental students. The names of these advisers may be secured at the dean's office.

Bachelor of Science

For graduation with the degree of Bachelor of Science, the following course work must be completed in accordance with the academic regulations as stated in this Bulletin.

UNIFORM COURSE REQUIREMENTS	S.H.
English	6
French and German (second college year)	12-24
Mathematics	6
Natural Science	8
Economics, History, or Political Science	6
Religion	6
Restricted Elective	6
Physical Education	4
MAJOR AND RELATED WORK	48
ELECTIVES TO MAKE A TOTAL OF	124

These requirements are described below. Description of courses can be found under "Courses of Instruction, Trinity College and the Woman's College."

ENGLISH, 6 s.h.—This requirement is met by the completion of English 1 and 2. Students who demonstrate proficiency in English usage may be allowed to substitute English 55 or 56 for English 1.

FRENCH AND GERMAN.—Bachelor of Science candidates must normally complete at least the second college year, or equivalent as determined by examination, of both French and German. In special cases, with the permission of the major department and the dean, this requirement may be met by completing the third year of French or German.

MATHEMATICS, 6 s.h.—This requirement may be met by completion of Mathematics 5 and 6.

NATURAL SCIENCE, 8 s.h.—This requirement can be satisfied by courses in one of the natural sciences, namely, botany, chemistry, geology, physics, and zoology. The courses must include laboratory work, and may not be counted as part of the major or related work.

SOCIAL SCIENCE AND HISTORY, 6 s.h.—A student who does not present for entrance two acceptable units of history (exclusive of other social studies) must take a course in history; otherwise, he has his choice of economics, history, or political science.

RELIGION, 6 s.h.—To meet this requirement 6 semester hours must be chosen from Religion 1, 2, 51, 52, 91, 94, 101, 103, 104, 114, 130, 132, 135, 181, 182.

RESTRICTED ELECTIVE, 6 s.h.—To meet this requirement 6 semester hours in addition to other uniform course requirements must be selected from aesthetics, art, economics, education, English, foreign language, history, music, philosophy, political science, religion, and sociology.

MAJOR AND RELATED WORK, 48 s.h.—Major and related work consists of 48 semester hours in the Natural Sciences. This work must be selected from the departments of botany, chemistry, geology, mathematics, physics, psychology, and zoology. The major work consists of not less than 24 semester hours in one department, the choice of courses being subject to the approval of the department. The major work does not include courses primarily open to freshmen. The related work is taken in at least two other departments and is selected subject to the approval of the major department. It may not include more than one course primarily open to freshmen. A minimum of 14 semester hours of related work is required, 8 hours of which must be in laboratory science. Further information concerning the requirements for the major and related work in the various departments will be found at the end of the department offerings in the section "Courses of Instruction."

ELECTIVES.—In addition to the above, the student must elect sufficient courses to complete, with an average grade of "C," the 124 semester hours necessary for graduation.

Students whose courses of study permit may elect a maximum of 18 semester hours in engineering, forestry, or medical science. The courses elected in these subjects must be approved by the major department and the dean of the college.

The total amount of work that a student may take in any one department toward the Bachelor of Science degree is limited to a maximum of 40 semester hours.

On or before the date announced for the spring registration, every sophomore in this group should select his major department in the Natural Sciences and arrange, under the guidance of an adviser in the major department, his program of studies for the following year. He should obtain the adviser's written approval of all courses selected in

the division before submitting his program to the dean for final action. In like manner, each upperclassman will recheck the courses in his division of concentration each year with a representative of his major department.

Bachelor of Science in Civil, Electrical, or Mechanical Engineering

The studies for degrees in Engineering, designed for students who are preparing for civil, electrical, or mechanical engineering as a profession, lead to the following degrees: B.S. in C.E., B.S. in E.E., and B.S. in M.E. All curricula of the College of Engineering are fully accredited by the Engineers' Council for professional development.

Recognizing the desirability of combining a maximum of liberal arts studies with professional engineering training, the College of Engineering has developed a special plan of cooperation with approved liberal arts colleges. Under this plan, which is often called the three-two plan, an outstanding student may follow an approved program of study at a cooperating liberal arts college for an initial period of three years and then complete his studies at the College of Engineering in two more years. At the end of the total period of five years, a degree of Bachelor of Arts or Bachelor of Science is granted by the liberal arts college, and a degree of Bachelor of Science in a designated branch of engineering by the College of Engineering. Inquiries concerning this plan should be addressed to the Dean, College of Engineering, Duke University.

GROUPS OF STUDIES FOR THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL, ELECTRICAL, OR MECHANICAL ENGINEERING

See the *Bulletin of the College of Engineering* for courses substituted by Air Force ROTC and Naval ROTC students in the following curricula:

Uniform Freshman Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
Math	5	College Algebra.....	3	Math	50	Analytic Geometry.....	3
Math	6	Trigonometry.....	3	Math	51	Calculus I.....	3
Chem	1	Chemistry.....	4	Chem	2	Chemistry.....	4
Engl	1	English.....	3	Engl	2	English.....	3
Hist	E1	History.....	3	Hist	E2	History.....	3
GE	1	Drawing.....	2	GE	2	Descriptive Geometry.....	2
		Physical Education.....	1			Physical Education.....	1
			19				19

DUKE UNIVERSITY
GROUP ONE
CIVIL ENGINEERING
Sophomore Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
Math	52	Calculus II.....	3	Math	53	Calculus III.....	3
Phys	51	Physics.....	5	Phys	52	Physics.....	5
Econ	51	Economics.....	3	Econ	52	Economics.....	3
GE	57	Statics.....	3	GE	107	Strength of Materials....	3
CE	61	Surveying.....	4	CE	62	Surveying.....	4
		Physical Education.....	1			Physical Education.....	1
			19				19

Junior Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
Engl	E93	Advanced Composition.....	3	Engl	151	Public Speaking.....	3
GE	58	Dynamics.....	3	GE	128	Hydraulics.....	3
CE	131	Structures.....	5	CE	132	Structures.....	5
CE	113	Route Surveying.....	3	CE	118	Materials.....	3
EE	123	Electric Circuits.....	4	EE	124	Electric Machinery.....	4
			<u>18</u>				<u>18</u>

Senior Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
CE	123	Water Supply.....	4	CE	124	Water Purification.....	3
CE	135	Soils.....	3	CE	116	Highways.....	3
CE	133	Reinforced Concrete....	4	CE	140	Indeterminate Structures..	3
ME	103	Heat Power.....	3	ME	104	Heat Power.....	3
ME	115	Mech. Eng. Laboratory...	1	ME	116	Mech. Eng. Laboratory...	1
		Approved Electives.....	3			Approved Electives.....	5
			18				18

GROUP TWO
ELECTRICAL ENGINEERING
Sophomore Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
Math	52	Calculus II.....	3	Math	53	Calculus III.....	3
Phys	51	Physics.....	5	Phys	52	Physics.....	5
Econ	51	Economics.....	3	Econ	52	Economics.....	3
GE	57	Statics.....	3	ME	52	Kinetics—Mechanism....	4
EE	51	Survey of Electrical Engineering.....	1	EE	52	Fields.....	3
Engl	E93	Advanced Composition....	3			Physical Education.....	1
		Physical Education.....	1				19
			19				

REQUIREMENTS FOR DEGREES

97

Junior Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
EE	101	Circuits.....	3	EE	102	Circuits.....	3
EE	107	Circuits Laboratory.....	1	EE	108	Circuits Laboratory.....	1
EE	105	Measurements.....	4	EE	106	Electronics.....	4
Math	131	Differential Equations....	3	EE	148	D-C Machinery.....	3
ME	103	Heat Power.....	3	ME	104	Heat Power.....	3
ME	115	Mech. Eng. Laboratory... 1		ME	116	Mech. Eng. Laboratory... 1	
GE	128	Hydraulics.....	3	Engl	151	Public Speaking.....	3
			18				18

Senior Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
EE	257	A-C Machinery.....	3	EE	258	A-C Machinery.....	3
EE	163	Machinery Laboratory.... 1		EE	164	Machinery Laboratory.... 1	
EE	261	Communications.....	4	EE	262	Communications.....	4
EE	165	Seminar.....	1	EE	166	Seminar.....	1
EE	159	Transmission.....	3	GE	107	Strength of Materials.... 3	
			6	GE	109	Materials Laboratory.... 1	
			18				5
							18

GROUP THREE

MECHANICAL ENGINEERING

Sophomore Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
Math	52	Calculus II.....	3	Math	53	Calculus III.....	3
Phys	51	Physics.....	5	Phys	52	Physics.....	5
Econ	51	Economics.....	3	Econ	52	Economics.....	3
GE	57	Statics.....	3	ME	52	Kinetics-Mechanism..... 4	
ME	53	Materials.....	3	Engl	E93	Advanced Composition... 3	
ME	57	Processes.....	2				1
			1				19
			20				

Junior Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
ME	101	Thermodynamics.....	3	ME	102	Thermodynamics.....	3
ME	113	Mech. Eng. Laboratory... 1		ME	114	Mech. Eng. Laboratory... 2	
ME	105	Fluid Mechanics.....	3	ME	108	Aeronautics.....	3
GE	107	Strength of Materials.... 3		ME	106	Heat Transfer.....	3
GE	109	Materials Laboratory.... 1		ME	150	Machine Design.....	3
EE	123	Electric Circuits.....	4	EE	124	Electric Machinery..... 4	
Engl	151	Public Speaking.....	3				18
			18				

Senior Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
ME 151	Machine Design.....	4		ME 158	Industrial Engineering....	3	
ME 155	Internal Combustion Engines.....	3		ME 162	Power Plants.....	3	
ME 153	Heating—Air Conditioning	3		ME 154	Refrigeration.....	3	
ME 159	Mech. Eng. Laboratory...	2		ME 160	Mech. Eng. Laboratory...	2	
	Approved Electives.....	6			Approved Electives.....	6	
		18				17	

Bachelor of Science in Nursing Education

The requirements for the degree of Bachelor of Science in Nursing Education are designed to prepare qualified graduate nurses for administrative, teaching, and supervisory positions in schools of nursing and in nursing service agencies.

To be eligible for admission to Duke University as a candidate for this degree a student must meet the following requirements:

1. Graduation from an approved secondary school with at least fifteen acceptable units of credit. (See specific requirements for admission to Trinity College and the Woman's College.)
2. Graduation from an approved school of nursing which provides satisfactory preparation in medical, surgical, pediatric, and obstetric nursing, as a minimum (psychiatric nursing is desirable).
3. Satisfactory scores on specified tests.
4. Supervisory ratings from three individuals, preferably former teachers and supervisors with whom the individual has had fairly recent contact.

Credit for 120 semester hours (exclusive of physical education) which must average a grade of at least C is required for the degree of Bachelor of Science in Nursing Education. The work of the final year must be taken in residence at Duke University. The program of studies leading to this degree must include:

	S.H.
1. MINIMUM GENERAL EDUCATION REQUIREMENTS.....	38-50
May be taken at Duke University or at any accredited college or university.	
English 1-2	6
*Natural science	8
History (1-2 or 51-52)	6
Economics (51-52)	
Political Science (61-62)	
Sociology (91-92 or 101)	3-6
Psychology (91, 100 or 101)	3-6
†Electives	12-18
2. BASIC NURSING PROGRAM.....	maximum 40
May be taken at the Duke School of Nursing or at any approved school of nursing. The amount of credit which is granted for the nursing school program is determined on an individual basis.	
3. COURSES IN EDUCATION AND NURSING EDUCATION.....	3
88 Psychological Foundation of Modern Education.....	3

* Botany 1-2, Chemistry 1-2, Geology 51-52, Physics 1-2, Zoology 1-2.

† Literature, art, music, religion, ethics, language are suggested.

118 Educational Psychology—Psychological Development.....	3
84N Social Foundations of Nursing Education.....	3
101N The Curriculum of the School of Nursing.....	3
115-116N Nursing Education: Principles and Practices.....	8
117 Community Nursing Service—Seminar in Field Trips to Community Agencies	3
4. FIELD OF CONCENTRATION.....	15
Fifteen semester hours in one field, such as chemistry, physics, psychology, sociology, zoology, or in a clinical area in conjunction with related subjects. No freshman work may be included in these 15 semester hours.	
5. PROFESSIONAL EXPERIENCE	
One year of experience as a graduate nurse is required before the degree is awarded.	

Academic-Professional Courses

The provision whereby a senior may elect the work of the first year in a professional school of the University shall apply solely to eligible students in Trinity College or the Woman's College. The privilege of completing a combined course for the degree is conditioned upon admission to the professional school at the close of the junior year. A student thus admitted registers as a senior in the College and as a first-year student in the professional school.

ACADEMIC-FORESTRY COMBINATION

A student who has completed the program of study given below with an average grade of C or higher in accordance with the academic regulations as stated in this Bulletin may, with the approval of the Dean of the College and the Admissions Committee of the School of Forestry, transfer to the School of Forestry. Upon the satisfactory completion of the work of the first year in the School of Forestry the student may become eligible for the degree of Bachelor of Science from Trinity College, Duke University. This provision shall apply solely to eligible undergraduates who have completed three years in residence at Duke University.

Students wishing information concerning admission to the School of Forestry are invited to consult with the dean of that school. Completion of the first three years of work necessary to qualify for the Academic-Forestry Combination does not insure admission to the Duke University School of Forestry, nor impose any restriction upon the School's freedom in selecting students for admission. The professional degree of Master of Forestry may be obtained upon the satisfactory completion of the work of the second year in the School of Forestry.

The program of studies in preparation for admission to the School of Forestry under the combination program includes the following work:

UNIFORM COURSE REQUIREMENTS

	S.H.
Uniform Course Requirements for the B.S. Degree	48-66
Additional Required Courses	24-26
Electives to Make a Total of	94
Summer Field Work	13

These requirements are described in the Requirements for the Bachelor of Science degree in this Bulletin. Spanish may be substituted for French in the foreign language requirement. The natural science requirement is met by completion of Botany 1-2. The economics, history, or political science requirement is met by completion of Economics 51-52. The student who does not present for entrance two acceptable units in history must meet the restricted elective requirement by completion of 6 semester hours in history.

ADDITIONAL REQUIRED COURSES.—The additional required courses are as follows:

	S.H.
Chemistry 1-2	8
Engineering Drawing 1-2	4
Geology 51	4
Physics 1-2 or 51-52	8-10
	<u>24-26</u>

ELECTIVES.—The electives are normally chosen from botany, chemistry, economics, mathematics and philosophy. A minimum of 94 semester hours must be obtained, exclusive of summer field work, to meet uniform course requirements, additional required courses, and electives.

SUMMER FIELD WORK.—This work of 13 weeks, preferably to be taken upon completion of the junior year, includes:

	S.H.
Civil Engineering S110. Plane Surveying	4
Forestry S150. Forest Surveying	5
Forestry S151. Forest Mensuration	4
	<u>13</u>

Students in this combination should have their programs approved by the special adviser for students in the Academic-Forestry Combination. The name of this adviser may be obtained at the dean's office.

ACADEMIC-LAW COMBINATION

A student who has completed with an average grade of C or higher, 96 semester hours of undergraduate work, including the uniform course requirements for the degree of Bachelor of Arts and the work of the junior year in his major and related fields, may, with the approval of the dean of the College, transfer to the Duke University School of Law and be eligible for the degree of Bachelor of Arts from Duke University upon the satisfactory completion therein of the work of the first year.

It is understood that this provision shall apply solely to eligible undergraduates who have completed three years in residence in Duke

University, and that not less than the full first-year's work of the Law School will be acceptable for credit towards the bachelor degree.

No single discipline or program of study can be described as the best preparation for the study of law since there are various methods of approach to legal study.

Completion of the undergraduate work necessary to qualify for the Academic-Law Combination does not insure admission to the Duke University School of Law, nor impose any restriction whatever upon its freedom in selecting students for admission. Students wishing further information are invited to consult with the Dean of the School of Law.

ACADEMIC-NURSING COMBINATION

A student who completes the three-year nursing program with an average grade of C or better may, upon recommendation of the Dean of the School of Nursing, apply for admission to the Woman's College of Duke University. If accepted, she may obtain the degree of Bachelor of Arts or Bachelor of Science by fulfilling the requirements of either degree.

Forty semester hours of credit toward the 120 semester hours (exclusive of physical education) required for the Bachelor's degree are allowed for the three-year nursing program. At least 30 semester hours, of which 24 semester hours must be in courses numbered 100 or above, must be taken in residence in the Woman's College. An average grade of C or better is required for all work.

The program of studies leading to the degree of Bachelor of Arts must include:

	S.H.
1. UNIFORM COURSE REQUIREMENTS	47-59
English 1-2	6
Language (completion of the third college year)	6-18
Natural Science	11
Religion	6
Social Science and History	12
Literature, Music, Art, and Philosophy	6
2. BASIC NURSING PROGRAM	40
3. FIELD OF CONCENTRATION	12
At least 12 semester hours in one department other than nursing in courses not primarily open to freshmen	12
4. ELECTIVES	9-21

To be eligible for the degree of Bachelor of Science, a student must complete the course of study outlined under the Requirements for the Degree of Bachelor of Science.

Courses of Instruction

Trinity College and the Woman's College



NOTE: Courses primarily for freshmen are numbered from 1 to 49; those primarily for sophomores are numbered from 50 to 99; those primarily for juniors and seniors from 100 to 199; those primarily for seniors and graduates from 200 to 299. The amount of credit for each course is given in semester hours following the description of the course.

The designation (w) or (E) indicates that the course is to be given on the West Campus or on the East Campus. The designation E means Engineering; L, Law; ds, Divinity School. When this designation precedes a course number, the course is not approved for graduate credit.

Odd-numbered courses are offered in the fall semester, and even-numbered courses are offered in the spring semester. Double numbers separated by a hyphen indicate that the course is a year-course and must normally be continued throughout the year if credit is received. A student must secure written permission from the instructor in order to receive credit for either semester of a year-course. Double numbers separated by a comma indicate that although the course is a year-course credit may be received for either semester without special permission.

COURSES OPEN PRIMARILY TO FRESHMEN

Air Science 1-2
 Art 1-2, 1L-2L
 Botany 1, 2
 Chemistry 1-2
 Economics 11
 Education 1, 5
 English 1-2
 French 1-2, 3-4
 German 1-2, 3-4
 Greek 1-2, 15
 Health Education 41
 History 1, 2, El-2

Latin 1-2, 3, 4
 Mathematics 1, 5, 6, 16
 Music 1-2, 11-12, 47-48
 Naval Science 101, 102
 Philosophy 48, 49
 Physical Education 1, 2
 Physics 1-2
 Political Science 11-12
 Religion 1, 2
 Spanish 1-2, 3-4
 Zoology 1, 2

AESTHETICS, ART, AND MUSIC

PROFESSOR RANSOM R. PATRICK, CHAIRMAN; ASSOCIATE PROFESSOR SUNDERLAND, DIRECTOR OF UNDERGRADUATE STUDIES IN ART; ASSOCIATE PROFESSOR HALL, SUPERVISOR OF FRESHMAN INSTRUCTION IN ART; ASSISTANT PROFESSOR JULIA W. MUELLER, DIRECTOR OF UNDERGRADUATE STUDIES IN MUSIC; ASSOCIATE PROFESSOR BONE, SUPERVISOR OF FRESHMAN INSTRUCTION IN MUSIC; ASSOCIATE PROFESSORS JENKINS, MARKMAN, AND EARL G. MUELLER; ASSISTANT PROFESSORS BRYAN, HANKS, KLENZ, SAVILLE, AND WITHERS; MR. ANDREWS, MRS. BERNSTEIN, MR. BRODERSON, MRS. MCCALL, MESSRS. STARS AND WOOD

AESTHETICS

121. THE PRINCIPLES OF ART CRITICISM.—The development of criteria for making sound critical judgments based on analyses of painting, sculpture, architecture, and design. 3 s.h. (E)

PROFESSOR PATRICK

FOR SENIORS AND GRADUATES

202. PHILOSOPHY OF ART.—A study of some fundamental issues in aesthetics, with particular reference to the fields of literature, music, and painting. Problems discussed include: the nature and purposes of the arts; meaning in the arts; art and morality; the role of standards in art criticism; aesthetic judgment; interpretation and evaluation. 3 s.h. (E) ASSISTANT PROFESSOR WELSH

221-222. HISTORY OF AESTHETICS.—Theories of art and beauty in the western world from antiquity to the present. Some attention will be given the developed theories of aesthetics in the Far East. (Formerly 213-214) 6 s.h. (E) PROFESSOR PATRICK

ART

HISTORY OF ART

1-2. INTRODUCTION TO ART HISTORY.—A historical survey of the development of architecture, sculpture, painting, and the minor arts as material manifestations of the culture of the western world from ancient to modern times, with some reference to primitive, Oriental, and other non-western cultures. The visual arts as a record of a whole civilization. The course will provide the student with terminology and principles necessary to formation of judgments. Open only to freshmen; others, see Art 51-52. 6 s.h. (E & W) STAFF

51-52. INTRODUCTION TO ART HISTORY.—A historical survey of the development of architecture, sculpture, painting, and the minor arts as material manifestations of the culture of the western world from ancient to modern times, with some reference to primitive, Oriental, and other non-western cultures. The visual arts as a record of a whole civilization. The course will provide the student with terminology and principles necessary to formation of judgments. The aims of this course are identical with those of Art 1-2; the content and method are adapted to the capacities of upperclassmen. Open only to upperclassmen who have not completed Art 1-2. A senior in his last semester may receive credit for one semester. 6 s.h. (E & W) STAFF

131. THE ARCHITECTURE OF ANTIQUITY AS CULTURAL EXPRESSION.—The course will illustrate by means of the major architectural works of Egypt, Mesopotamia, the Aegean world, Greece, and Rome the basic ideas underlying the formation and development of the western tradition: The hope for the Eternal Life—tomb architecture in Egypt; Anthropomorphism and Greek rationale—temple architecture; the World State, a unified humanity; and Roman engineering architecture. 3 s.h. (W) ASSOCIATE PROFESSOR MARKMAN

132. ANCIENT SCULPTURE AND PAINTING.—The visual arts of sculpture and painting as showing a more introspective and detailed expression of the ideas which motivate cultural processes. The sculpture of Egypt and Mesopotamia, the vase and mural painting of the Aegean world, the sculpture and sculptors of the Greeks, and Roman reliefs and portraits will be emphasized. Greek vase painting and Pompeian mural painting will be discussed more briefly and in relationship to the psychological concept of space and its rendering in two-dimensional media. 3 s.h. (W) ASSOCIATE PROFESSOR MARKMAN

133. MEDIAEVAL ARCHITECTURE.—A survey of Christian architecture in the Near East, the Balkans, Russia, and western Europe from the beginnings of the mediaeval style in the late classical period to its disintegration in the fifteenth century. (Formerly 101) 3 s.h. (E) ASSOCIATE PROFESSOR SUNDERLAND

134. MEDIAEVAL PAINTING AND SCULPTURE.—A study of painting, including mosaics, manuscripts, stained glass, and sculpture, in western Europe from the late classical period through the fourteenth century. (Formerly 102) 3 s.h. (E) ASSOCIATE PROFESSOR SUNDERLAND

135. RENAISSANCE ARCHITECTURE.—A study of the early phases of the new style based on design elements taken from ancient Rome which replaced the dying Gothic style in Italy in the fifteenth century and in the rest of western Europe in the sixteenth century. 3 s.h. (E) ASSOCIATE PROFESSOR SUNDERLAND

137. ITALIAN RENAISSANCE PAINTING AND SCULPTURE.—The evolution of art forms in Italy during the fifteenth and sixteenth centuries with emphasis on the art of Florence, Rome, and Venice. The relation of art forms to humanism and the culture of the period. (Formerly 123) 3 s.h. (E)

ASSOCIATE PROFESSOR JENKINS

136. NORTHERN RENAISSANCE ART.—A study of book illumination, panel painting, graphic arts, and sculpture as expressions of literary, religious, and philosophical ideas of the fifteenth and sixteenth centuries in the Low Countries, Germany, and France. The formation of the northern realistic tradition in late Gothic Art and the relationship of the North with the Italian Renaissance will be developed in detail. Some emphasis will be placed on individual artists such as the Van Eycks, Van der Weyden, Bouts, Van der Goes, Bosch, Bruegel, Grünewald, and Dürer. (Formerly 125) 3 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER

138. EUROPEAN ARCHITECTURE 1550-1750.—A study of the alteration of the High Renaissance ideal by Mannerist and Baroque designers in Italy, and the consequences for the rest of western Europe, especially for absolutist France and parliamentary England. 3 s.h. (E)

ASSOCIATE PROFESSOR HALL

140. BAROQUE PAINTING AND SCULPTURE.—The styles of the seventeenth and eighteenth centuries in European countries as examples of the international culture of the period. An analysis of the great masters. (Formerly 126) 3 s.h. (E)

ASSOCIATE PROFESSOR JENKINS

139. THE RISE OF CONTEMPORARY ARCHITECTURE.—A study of the sources and evolution of the architecture of today, from the eighteenth century conflict between Romantic Historicism and Industrialism to the work of Gropius, LeCorbusier, Wright, and their successors. (Formerly 105) 3 s.h. (E)

ASSOCIATE PROFESSOR HALL

142. MODERN PAINTING AND SCULPTURE.—The development of European painting and sculpture from the period of the French Revolution to the present. Introduction to parallel and contemporary trends in the United States. (Formerly 129 and 130) 3 s.h. (E)

PROFESSOR PATRICK

141. AMERICAN ART.—A survey of architecture, sculpture, and painting in America from the time of the first settlers to the present day, including a consideration of the contributions of the English, Dutch, French, and Spanish to the artistic heritage of the United States. (Formerly 94) 3 s.h. (E)

ASSOCIATE PROFESSOR SUNDERLAND

143. THE HISTORY OF PRINTS AND DRAWINGS.—A historical and critical study of drawings and prints from the fifteenth century to the present with reference to functions, values, and relationships to other forms such as painting, sculpture, and the book. (Formerly 133) 3 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER

FOR SENIORS AND GRADUATES

215. RELIGIOUS ART OF THE ANCIENT NEAR EAST.—A specialized study of the development of art, particularly architecture and sculpture, as the material expression of religious ideas in Egypt, Mesopotamia, and in part of Syria and Palestine, to the Persian conquest. 3 s.h. (w)

ASSOCIATE PROFESSOR MARKMAN

216. RELIGIOUS ART OF THE CLASSICAL WORLD.—A specialized study of the religious art, particularly architecture and sculpture, of Greece and Rome, with special emphasis on the monuments in the Near East. 3 s.h. (w)

ASSOCIATE PROFESSOR MARKMAN

217. AEGEAN ART.—A study of the problems of Aegean art as the forerunner of Greek art and in relation to the contemporary civilization of the eastern Mediterranean world. 3 s.h. (w)

ASSOCIATE PROFESSOR MARKMAN

218. EARLY GREEK ART.—A study of the problems of the origin and development of Greek art in the Geometric period to the end of the Archaic. 3 s.h. (w)

ASSOCIATE PROFESSOR MARKMAN

233. **EARLY MEDIAEVAL ARCHITECTURE.**—The development of religious architecture from the time of Constantine to the end of the First Romanesque style in the third quarter of the eleventh century. 3 s.h. (E)

ASSOCIATE PROFESSOR SUNDERLAND

234. **ROMANESQUE SCULPTURE.**—The development of sculpture in western Europe from the early Christian period through the culmination of Romanesque art in the west portal of Chartres Cathedral. 3 s.h. (E)

ASSOCIATE PROFESSOR SUNDERLAND

240. **ARCHITECTURE OF NORTH AMERICA.**—A study illustrating the transplantation of European architectural customs since the sixteenth century; the time-lag in transit and acceptance of later European developments; the gradual assumption of confident independence in design; and the emergence of international leaders in the United States. (Formerly 106) 3 s.h. (E)

ASSOCIATE PROFESSOR HALL

DESIGN

Students other than art majors may receive not more than eight semester hours credit for work in studio courses. For any number of semester hours of credit in studio courses an equal number of hours must be taken in History and Criticism. The introductory courses 1L-2L or 51L-52L are prerequisite for all courses in Design.

1L-2L. **DESIGN LABORATORY.**—This course aims to develop the student's visual faculty through practice with design elements and experience with media. Freshmen intending to elect further courses in Art are advised to carry this course concurrently with Art 1-2. Open only to freshmen enrolled in Art 1-2; others, see Art 51L-52L. 2 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER; MR. BRODERSON

51L-52L. **DESIGN LABORATORY.**—The aims, content, and method of this course are similar to those of Art 1L-2L. Upperclassmen intending to elect further courses in Art are advised to carry this course concurrently with Art 51-52. Open only to upperclassmen enrolled in Art 51-52, and to those who have completed Art 1-2 or 51-52 without electing Design Laboratory. A senior in his last semester may receive credit for one semester. 2 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER; MR. BRODERSON

53-54. **BEGINNING STUDIO.**—A studio course offering experiment and practice with formal elements of composition in various media. Particular emphasis will be given to drawing; watercolor, collage, and three-dimensional media will be secondarily considered. 4 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER; MR. BRODERSON

55, 56. **PAINTING.**—A studio course designed to give experience in painting media with individual and group criticism, and discussion of important historic or contemporary ideas in painting as related to student work. Prerequisite: Art 53-54 or consent of the instructor. 4 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER; MR. BRODERSON

157, 158. **ADVANCED PAINTING.**—Emphasis is given to the techniques of various painting and design media. Prerequisite: 55, 56. 4 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER; MR. BRODERSON

159, 160. **PRINTMAKING.**—This course presupposes a knowledge of design and skill in drawing. Practice in wood engraving; block printing; and in copperplate engraving, etching, aquatint, and drypoint. Reference will be made to prints in relation to the design of the book, and historic examples of the art of the print will be analyzed in the study of these techniques. Prerequisite: 53-54. 4 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER; MR. BRODERSON

DEPARTMENTAL MAJOR IN ART

Prerequisite: Introduction to Art History (1-2 or 51-52); or, with the approval of the Director of Undergraduate Studies, equivalent hours in 100 level courses which form a background for the History of Art.

Major Requirements: The student will select in consultation with the departmental adviser a sequence of courses emphasizing either the History of Art or Design.

a. History of Art: 24 semester hours which must include courses at the 100 level distributed over the entire field of Art History, and a concentration of courses in at least two areas.

b. Design: 22 semester hours, of which 16 must be in Design and 6 from courses in the History of Art and Theory.

Related Work: 18 hours which must include work in the field of Aesthetics and Criticism (Aesthetics 121, 221-222); 9 hours in two other departments should be elected from courses in History, English, German, Romance Languages, Greek, Latin and Roman Studies, Philosophy, Sociology, Anthropology, Psychology, and the History of Religion.

MUSIC

Courses in music are offered both for the general student who wishes to acquire knowledge of music as literature and on a more technical level for those prepared to major in the field. The courses marked * are open to general students without prerequisites.

THEORY

*11-12. **THEORY I.**—The elements of harmony, rhythm, and form; the visual and aural recognition of scales, intervals, triads, and seventh chords, and their functions in relation to the system of tonality; harmonization of melodies; development of rhythmic discrimination. Designed for those students who wish to pursue a more technical study of music. Three lectures and two laboratory hours. Open only to freshmen. 8 s.h. (E) STAFF

*61-62. **THEORY I.**—An amplification of Music 11-12. Open to upperclassmen who have not had Music 11-12. 8 s.h. (E) STAFF

73-74. **THEORY II.**—A continuation of Music 11-12, plus analysis and composition of the smaller forms; further development of proficiency in harmonization; continuation of aural training; introductory study of counterpoint. Prerequisite: Music 11-12 or 61-62. 6 s.h. (E) ASSISTANT PROFESSORS BRYAN AND KLENZ

117-118. **THEORY III.**—A continuation of Music 73-74. Emphasis upon development of technical and expressive means and stylistic treatment by practical work in composition, and analysis and observation of larger forms; further study of counterpoint. The completion of an original large form composition for chamber group, chorus, or orchestra. Prerequisites: Music 11-12 or 61-62, and 73-74. 4 s.h. (E) ASSISTANT PROFESSOR KLENZ

121. **CONDUCTING.**—The conducting of orchestral and vocal scores. Score-reading and analysis, principles of interpretation, establishment of vocal and instrumental conductorial techniques leading to practical experience in conducting the department musical organizations in rehearsal. Prerequisites: Music 11-12 or 61-62, and 73, or consent of the instructor. 3 s.h. (E) ASSOCIATE PROFESSOR BONE

122. **ORCHESTRATION.**—A study of the technical characteristics and transpositions of the instruments of the modern symphony orchestra and concert band. Instrumentation of piano scores or original compositions for string, woodwind, brass ensembles, and for full symphony orchestra or concert band. Prerequisites: Music 11-12 or 61-62, and 73, or consent of the instructor. 3 s.h. (E) ASSOCIATE PROFESSOR BONE

HISTORY AND CRITICISM

*1-2. **INTRODUCTION TO MUSIC.**—Rhythm, melody, harmony, form. The instruments of the orchestra and their use. Orchestral, chamber, choral and operatic music of the Classic and Romantic periods. Designed for those students who wish to acquire a general appreciation of music. Open only to freshmen who do not plan to major in music. 6 s.h. (E) ASSOCIATE PROFESSOR BONE; ASSISTANT PROFESSORS HANKS AND WITHERS

*51-52. **INTRODUCTION TO MUSIC.**—Music from 1700 to the present day. Acquisition of a reading knowledge of notes, rhythms, musical symbols. Study of forms, media, styles, and the lives and works of great representative composers. Not open to music majors or to students who have had Music 1-2. 6 s.h. (E) ASSISTANT PROFESSORS KLENZ AND J. MUELLER

95-96. **HISTORY OF MUSIC I.**—Historical background and development of music in the Classical, Romantic, and Contemporary periods. Study of representative compositions from the Mannheim school through Beethoven, first semester; Schubert to the present, second semester. Prerequisites: Music 1-2 or 11-12 or 61-62, or consent of the instructor. 6 s.h. (E) ASSISTANT PROFESSORS KLENZ AND SAVILLE

*133. **ORCHESTRAL LITERATURE.**—A study of orchestral suites, overtures, concerti, symphonies, and symphonic poems selected from literature of the eighteenth century to the present. 3 s.h. (E) ASSOCIATE PROFESSOR BONE

*134. **CHORAL LITERATURE.**—A study of representative oratorios, cantatas, and masses from Bach to Stravinsky; religious and social implications of sacred choral compositions and performance from the Baroque to the present. 3 s.h. (E) ASSISTANT PROFESSOR SAVILLE

135. **PIANO LITERATURE.**—A comprehensive survey of the great works for keyboard instruments, from the time of the English virginal composers to the present. Prerequisites: Music 47A, 48A, 97A, and 98A, or consent of the instructor. 3 s.h. (E) ASSISTANT PROFESSOR WITHERS

136. **SOLO SONG LITERATURE.**—A study of standard recital repertoire; early Italian and English songs, German lieder, the French and English art song. Open to junior and senior Applied Voice majors. 3 s.h. (E) ASSISTANT PROFESSOR HANKS

137. **CHAMBER MUSIC.**—A study of form, style, and interpretation of masterpieces of chamber music. Prerequisites: Music 1-2 or 51-52, or 11-12 or 61-62, or consent of the instructor. 3 s.h. (E) ASSISTANT PROFESSOR J. MUELLER

138. **CONTEMPORARY MUSIC.**—A critical survey of contemporary stylistic trends and theory in the light of their twentieth-century background. Prerequisites: Music 1-2 or 51-52 or 11-12 or 61-62, or consent of the instructor. 3 s.h. (E) ASSISTANT PROFESSOR KLENZ

145-146. **HISTORY OF MUSIC II.**—History and technical development of music in Mediaeval, Renaissance, and Baroque periods against a background of European cultural history. First semester: late classic, early Christian music; the evolution of Gregorian Chant; Romanesque, Troubadour, and Gothic forms. Second semester: Renaissance and Baroque (J. S. Bach). Prerequisites: Music 95-96 or consent of instructor. 6 s.h. (E) ASSISTANT PROFESSOR KLENZ

*164. **MUSIC IN THE NINETEENTH CENTURY.**—A study of the music of the nineteenth century, from Beethoven to Debussy, with attention to artistic and literary influences, and the relations among the creative minds of the time. Individual projects. 3 s.h. (E) ASSISTANT PROFESSOR J. MUELLER

*165. **OPERA.**—Opera from Handel to Strauss; aesthetic and cultural implications of opera from the Baroque to the present. 3 s.h. (E) ASSISTANT PROFESSOR SAVILLE

195-196. **COLLEGIUM MUSICUM (HISTORY OF MUSIC III).**—Studies in the integration of music history, theory, and performance. Survey of sources, monuments, and bibliographical techniques. Preparation for performance of representative musical literature through analysis, realization of notations, and stylistic reconstruction. Classroom discussion and reports; also laboratory. Designed for music majors in history or theory and open to others by consent of the instructor. 4 s.h. Laboratory may be taken separately under Applied Music, Medium F. (E) ASSISTANT PROFESSOR KLENZ

MUSIC EDUCATION

57-58. **VOCAL DICTION.**—Problems of diction as specifically applied to the art of singing. Required of all Applied Voice majors. 2 s.h. (E) ASSISTANT PROFESSOR HANKS

106. **PIANO METHODS AND MATERIALS.**—A study of the materials and methods of piano pedagogy. The appropriate choice of essential and supplementary literature. Development of technique, style, and musicianship. Supervised practice teaching. Prerequisites: Music 47A, 48A, 97A, and 98A, or consent of the instructor. 3 s.h. (E) ASSISTANT PROFESSOR WITHERS

107. VOCAL PEDAGOGY.—The problems of private vocal teaching. A detailed study of the function of the vocal mechanism and of the psychological factors in teaching. Open to junior and senior Applied Voice majors, and others with the consent of the instructor. 3 s.h. (E) ASSISTANT PROFESSOR HANKS

151. PUBLIC SCHOOL MUSIC EDUCATION.—For Elementary Education majors. Child voice and song; rhythmic activities; discriminative listening; music-reading; use of elementary instruments such as autoharp, tonette, and rhythm band instruments; music as a creative art in its own right and as an adjunct to other studies. 3 s.h. (E) ASSISTANT PROFESSOR SAVILLE; MRS. MCCALL

APPLIED MUSIC

The study of Applied Music concerns the use and understanding of technics of performance in relation to the standard literature of each medium or ensemble group. Instruction is offered in the following media: A. Piano; B. Strings; C. Woodwinds; D. Brass; E. Voice; F. Ensemble—Piano, Instrumental, Vocal, and the Departmental Ensembles listed below. Instruction in media A through E may be private or in classes limited to a minimum of 4 and a maximum of 7 students. Class instruction is restricted to the first 4 grades of proficiency. Class instruction shall be designated by adding the letter X to the appropriate medium and year-in-school classification. (Example: junior year, Woodwinds, class instruction is recorded 147CX.)

Students who wish to enroll in Applied Music courses *must* consult with the appropriate faculty member *before* registering for a course.

47A, 48A; 97A, 98A; 147A, 148A; 197A, 198A. PIANO.—For freshmen, sophomores, juniors, seniors. 2 s.h. (E) ASSISTANT PROFESSOR WITHERS; MRS. BERNSTEIN

47B, 48B; 97B, 98B; 147B, 148B; 197B, 198B. VIOLIN, VIOLA, 'CELLO.—For freshmen, sophomores, juniors, seniors. 2 s.h. (E)

ASSISTANT PROFESSORS KLENZ AND J. MUELLER

47C, 48C; 97C, 98C; 147C, 148C; 197C, 198C. WOODWINDS.—For freshmen, sophomore, juniors, seniors. 2 s.h. (E) ASSOCIATE PROFESSOR BONE

47D, 48D; 97D, 98D; 147D, 148D; 197D, 198D. BRASS.—For freshmen, sophomores, juniors, seniors. 2 s.h. (E) ASSISTANT PROFESSOR BRYAN; MR. WOOD

47E, 48E; 97E, 98E; 147E, 148E; 197E, 198E. VOICE.—For freshmen, sophomores, juniors, seniors. 2 s.h. (E) ASSISTANT PROFESSOR HANKS

47F, 48F; 97F, 98F; 147F, 148F; 197F, 198F. ENSEMBLE.—For freshmen, sophomores, juniors, seniors. Prerequisite: consent of the instructor. 1 s.h. (E) STAFF

Credits: Credit for Media A through E is granted on the basis of 2 s.h. per semester for one period of private study and a minimum of 6 hours practice per week; 1 s.h. per semester for one period of class study and a minimum of 6 hours practice per week.

Credit for instruction in Medium F is granted on the basis of 1 s.h. per semester for one period of instruction per week and a minimum of 6 hours practice per week. No additional fee required.

Students other than Music Majors may receive not more than 8 s.h. credit for work in Applied Music. For any number of hours in Applied Music an equal number of hours must be taken in Music Theory or in Music History and Criticism.

Music Majors may take a minimum of 6 s.h. and a maximum of 14 s.h. in Applied Music according to the following areas of concentration:

Majors in Music Theory or in Music History and Criticism must earn 6 s.h. credit in Applied Music. (Credit may be reckoned from Grade I.)

Majors in Applied Music may earn a maximum of 14 s.h. credit in Applied Music.

Majors in Music Education must earn credit in Applied Music as follows in order to qualify for state certification in North Carolina:

General (Vocal) Major—13 s.h.

a. Voice, reckoned from Grade I—6 s.h.

- b. Piano, reckoned from Grade I—6 s.h.
 - c. Ensemble—1 s.h.
- Instrumental Major—13 s.h.
- a. Major medium, reckoned from Grade III—8 s.h.
 - b. Instrument classes—1 s.h. each of woodwinds, brass, string instruments other than major-minor instruments above—3 s.h.
 - c. Ensemble—2 s.h.
 - d. For purposes of certification in the State of North Carolina a student should earn credits beyond those accepted for graduation as follows: Piano proficiency sufficient to play at sight hymns or music of equivalent difficulty and/or study of a string instrument—4 s.h. and participation in one of the departmental organizations listed below—4 s.h.

Fees per semester: Fees are charged for Applied Music Media A, B, C, D, and E, and for practice facilities. They are payable to the Treasurer's Office of Duke University at the beginning of each semester as follows:

One ½ hour private lesson per week for one semester.....	\$45.00
Two ½ hour private lessons per week or one 1-hour private lesson per week for one semester.....	80.00
One 1-hour class lesson per week for one semester.....	25.00
Three hours' use of cubicle with piano per week for one semester (Theory and Voice students).....	7.50
Six hours use of cubicle with piano per week for one semester (Piano students).....	15.00
Six hours use of cubicle without piano per week for one semester.....	10.00

DEPARTMENTAL ENSEMBLES

Brass Ensemble	Madrigal Singers
Chamber Orchestra	Piano Ensemble
Collegium Musicum	Vocal Ensemble

DEPARTMENTAL ORGANIZATIONS

- Duke University Concert Band
- Duke University Symphony Orchestra

DEPARTMENTAL MAJOR IN MUSIC

Prerequisite: Music 11-12 or 61-62.

Major Requirements: 24 s.h. including 6 s.h. in Applied Music. The major student shall select, in consultation with his departmental adviser, a sequence of Music courses emphasizing (a) theory, or (b) history and criticism, or (c) education, or (d) the use and understanding of a particular medium.

AIR SCIENCE

PROFESSOR KNIGHT, COLONEL, USAF, CHAIRMAN; ASSISTANT PROFESSOR MYERS, MAJOR, USAF, DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR SMITH, CAPTAIN, USAF, SUPERVISOR OF FRESHMAN INSTRUCTION; ASSISTANT PROFESSORS BARNHILL, MAJOR, USAF, AND STEVENS, CAPTAIN, USAF

ELIGIBILITY REQUIREMENTS.—All physically qualified freshmen who are citizens of the United States and are enrolled in Trinity College or the College of Engineering are eligible to enroll in the Air Force ROTC. Veterans may be exempted from the freshman and sophomore courses (AS 1-2 or AS 51-52). In special cases where permission has been granted, certain qualified students from the Graduate and Professional Schools may be enrolled.

DEPOSIT REQUIRED.—Each student must make a deposit of twenty dollars with the University Treasurer to insure return of all government property.

AIR FORCE ROTC COURSES.—All students pursue the same generalized courses. No flying training is included in the college program. All specialized training will be given when the individual enters the Air Force.

The courses are established by the United States Air Force and are approved by the College as electives for all undergraduates. Field or laboratory instruction in leadership, drill, and exercise of command is included as a part of all courses to indoctrinate the student in the fundamental principles of command.

BASIC COURSES

The following courses are required of students in the Air Force Reserve Officers Training Corps, as outlined in the various curricula:

AS 1-2. FIRST YEAR BASIC AIR SCIENCE.—This course introduces the student to the AFROTC Program and the Field of Aviation. The fundamentals of global geography are studied in relationship to international tensions and the resulting formation of security organizations. The course concludes with an analysis of the instruments of National Military Security. 4 s.h. (w) STAFF

AS 51-52. SECOND YEAR BASIC AIR SCIENCE.—Stress is laid upon the elements and potentials of air power including targets, weapons, aircraft, air oceans, air bases, and Air Force operations. A survey is made of the careers open to personnel in the Air Force. 4 s.h. (w) STAFF

ADVANCED COURSES

All students selected to continue in Air Science pursue:

AS 101-102. FIRST YEAR ADVANCED AIR SCIENCE.—The first semester is concerned with the Air Force commander and his staff; techniques of problem solving; communications processes and Air Force correspondence; instructing in the Air Force. The second half of the course deals with military law, courts and boards and applied air science including problems of modern flight, navigation, and weather. Attention is also given to the functions of an Air Force base. Prerequisites: AS 1-2 and 51-52 or equivalent. 8 s.h. (w) STAFF

AS 201-202. SECOND YEAR ADVANCED AIR SCIENCE: The first semester includes career guidance, seminar studies in the principles of leadership and management in the Air Force and military aviation and the evolution of warfare. The second semester is concerned with the military aspects of world political geography and concludes with a briefing for commissioned service. Prerequisites: AS 1-2 and 51-52 or equivalent, and AS 101-102. 8 s.h. (w) STAFF

BOTANY

PROFESSOR OOSTING, CHAIRMAN; PROFESSOR ANDERSON, DIRECTOR OF UNDERGRADUATE STUDIES; DR. MANLY, SUPERVISOR OF FRESHMAN INSTRUCTION; ASSISTANT PROFESSOR PHILPOTT, SUPERVISOR OF FRESHMAN INSTRUCTION (WOMAN'S COLLEGE); PROFESSORS BLOMQUIST, HARRAR, AND KRAMER; ASSOCIATE PROFESSORS BILLINGS, HUMM, NAYLOR, AND PERRY; ASSISTANT PROFESSOR JOHNSON, ASSISTANT PROFESSOR AND RESEARCH ASSOCIATE SCHUSTER; AND ASSISTANTS

1. GENERAL BOTANY.—An introduction to the structure and life-processes of seed plants and the environmental factors influencing their distribution. Laboratory, discussions, and field trips. Three two-hour periods. 4 s.h. (w & e) STAFF

2. GENERAL BOTANY.—A survey of the plant kingdom with emphasis on reproduction and an introduction to identification. Three two-hour periods. Prerequisite: Botany I. 4 s.h. (w & e) STAFF

51. CULTURE AND PROPAGATION OF PLANTS.—Experimental studies of the processes involved in growth, and the application of this knowledge to the selection, growth, and propagation of plants. Prerequisite: one year of botany. 4 s.h. (w) PROFESSOR ANDERSON

52. **PLANT IDENTIFICATION.**—Practice in the identification of local plants, especially flowering plants, and a study of the principles and rules underlying plant classification. Laboratory, lectures, and field trips. Prerequisite: one year of botany. 4 s.h. (w) PROFESSOR BLUMQUIST

53. **ECOLOGY OF ECONOMIC PLANTS.**—The principles of plant growth and distribution as applied to crop plants. Forest, grassland, and representative cultivated species will be considered in relation to environment. Prerequisite: one year of a natural science. 3 s.h. (E) PROFESSOR OOSTING

55. **ANATOMY AND MORPHOLOGY OF VASCULAR PLANTS.**—A detailed study of the vegetative and reproductive tissues of seed plants; and a survey of the several groups of vascular plants emphasizing relationships of body structures and life histories. Prerequisite: one year of botany. 4 s.h. (E)

ASSISTANT PROFESSOR PHILPOTT

101. **PRINCIPLES OF HEREDITY.**—The basic principles of heredity and their significance. Lectures, three hours; laboratory, two hours; conference (attendance optional), one hour. Laboratory work includes experimental breeding of the fruit fly. May be taken as a lecture course without laboratory. Prerequisite: one (high-school or college) course in biology, botany, or zoology. High-school or college algebra recommended. 3 or 4 s.h. (w) ASSOCIATE PROFESSOR PERRY

103. **GENERAL BACTERIOLOGY.**—A study of the morphology and fundamental physiological processes of bacteria; their relationship to sanitation, public health, soil fertility, and food preservation. Prerequisite: one year of botany or zoology, or equivalent. 4 s.h. (w) ASSOCIATE PROFESSOR HUMM

104. **THE STRUCTURE AND IDENTIFICATION OF LOWER PLANTS.**—A study of representative examples of algae, fungi, mosses and liverworts, including collection, identification, and classification of common forms. Offered in alternate years. Prerequisite: one year of botany. 4 s.h. (w) PROFESSOR ANDERSON

151. **INTRODUCTORY PLANT PHYSIOLOGY.**—The principal physiological processes of plants, including water relations, synthesis and use of foods, and growth phenomena. Prerequisite: Botany 1, 2 or equivalent; one year of chemistry recommended. 4 s.h. (w) PROFESSOR KRAMER

156. **PLANT ECOLOGY.**—The principal factors affecting plants and plant communities as they exist in different environments. Laboratory, lectures, and field trips. Prerequisites: Botany 1, 2 and 52, or equivalent. 4 s.h. (E)

ASSOCIATE PROFESSOR BILLINGS

202. **GENETICS.**—The principles of heredity, their cytological basis, and their bearing on other fields of biology. Laboratory work involves experimental breeding of the fruit fly and interpretation of data from the breeding of plants. Offered in alternate years. Prerequisites: one year of botany or zoology, or equivalent, and college algebra. 4 s.h. (w) ASSOCIATE PROFESSOR PERRY

203. **PLANT CYTOLOGY.**—A study of the structure and organization of plant cells in relation to growth, reproduction and especially heredity. Offered in alternate years. Prerequisite: one year of botany. 4 s.h. (w) PROFESSOR ANDERSON

204. **ADVANCED PLANT ANATOMY.**—A study of vegetative and reproductive tissues of vascular plants including selection and preparation of fresh plant materials. An analysis of some of the significant literature bearing upon function, development and phylogeny. Prerequisite: Botany 55 or equivalent. 4 s.h. (E)

ASSISTANT PROFESSOR PHILPOTT

216. **BOTANICAL MICROTECHNIQUE.**—Methods and theory in preparation of plant tissues for temporary mounts and permanent microscopical slides. Prerequisite: Two years of natural science. 4 s.h. (E) ASSISTANT PROFESSOR PHILPOTT

218. **ILLUSTRATIVE TECHNIQUES.**—A study of botanical illustrative methods, including theory and use of the microscope, microscopical measurements, drawing, photomicrography, botanical photography, darkroom procedure, lantern slides and the preparation of illustrative material for publication. Prerequisite: Two semesters of botany, zoology or forestry. 2 s.h. (w) PROFESSOR ANDERSON

221. **INTRODUCTORY MYCOLOGY.**—Field and laboratory study of the vegetative and reproductive structures of the fungi and slime molds. Methods of collection, isolation, propagation, and identification of the major orders as represented in the local flora. Prerequisite: One year of biological science. 4 s.h. (w)

ASSISTANT PROFESSOR JOHNSON

225-226. **SPECIAL PROBLEMS.**—Students with adequate training may do special work in the following fields:

- a. MYCOLOGY, AND PLANT PATHOLOGY. ASSISTANT PROFESSOR JOHNSON
- b. CYTOLOGY. PROFESSOR ANDERSON
- c. ECOLOGY. PROFESSOR OOSTING AND ASSOCIATE PROFESSOR BILLINGS
- d. GENETICS. ASSOCIATE PROFESSOR PERRY
- e. MORPHOLOGY AND ANATOMY OF HIGHER GROUPS.
PROFESSOR HARRAR AND ASSISTANT PROFESSOR PHILPOTT
- f. MORPHOLOGY AND TAXONOMY OF LOWER GROUPS.
PROFESSORS BLOMQUIST AND ANDERSON
- g. PHYSIOLOGY. PROFESSOR KRAMER AND ASSOCIATE PROFESSOR NAYLOR
- i. TAXONOMY OF HIGHER GROUPS. PROFESSOR BLOMQUIST
- j. SENIOR SEMINAR.—1 s.h. (w) STAFF
- m. MICROBIOLOGY. ASSOCIATE PROFESSOR HUMM

252. **ADVANCED PLANT PHYSIOLOGY.**—The physicochemical processes and conditions underlying the physiological processes of plants. Prerequisite: Botany 151 or equivalent; organic chemistry recommended. 4 s.h. (E)

ASSOCIATE PROFESSOR NAYLOR

254. **PLANT WATER RELATIONS.**—A study of factors affecting the availability of water, its absorption and use in plants, and the effects of water deficits on plant processes. Assigned readings, reports, and lectures. Prerequisite: Botany 151 or equivalent. 3 s.h. (w)

PROFESSOR KRAMER

255. **ADVANCED TAXONOMY.**—A study of the historical background of plant taxonomy, modern concepts and systems of classification, nomenclatorial problems and the taxonomy of specialized groups. Prerequisite: two years of botany, including Botany 52 or equivalent. 4 s.h. (w)

PROFESSOR BLOMQUIST

256. **COMMUNITY ANALYSIS AND CLASSIFICATION.**—The development of concepts and methods in synecology leading to present applications of theory and field techniques. Prerequisite: Botany 156 or equivalent. 3 s.h. (E)

PROFESSOR OOSTING

257. **PRINCIPLES OF PLANT DISTRIBUTION.**—Interpretations of floristic and ecological plant geography of world vegetation. Prerequisite: Botany 156 or equivalent. 3 s.h. (E)

ASSOCIATE PROFESSOR BILLINGS

258. **PHYSIOLOGY OF GROWTH AND DEVELOPMENT.**—Consideration of the internal factors and processes leading to the production of new protoplasm and its differentiation at the cellular, tissue, and organ level in plants. Prerequisite: Botany 151 or equivalent; organic chemistry recommended. 3 s.h. (E)

ASSOCIATE PROFESSOR NAYLOR

259. **ENVIRONMENTAL MEASUREMENTS.**—Methods of obtaining and evaluating climatological data for ecological purposes with special attention to instrumentation and microclimate. Prerequisite: Botany 151 and 156 or equivalent. 3 s.h. (E)

ASSOCIATE PROFESSOR BILLINGS

FOREST BOTANY

224. **FOREST PATHOLOGY.**—Infectious and non-infectious diseases of forest trees, and related deterioration of forest products. Field and laboratory study of symptoms, etiology, and control. Prerequisite: Botany 1 and 2. 3 s.h. (w)

ASSISTANT PROFESSOR JOHNSON

253. DENDROLOGY.—Nomenclature, classification, and identification of woody plants with special reference to species indigenous to southeastern United States and other important forest regions of temperate North America. Laboratory and field work. Prerequisite: one year of botany. 3 s.h. (w) PROFESSOR HARRAR

DEPARTMENTAL MAJOR

Prerequisites: Botany 1 and 2.

Major Requirements: A minimum of 21 hours (B.S., 24 hours) of work including courses 52, 55, and 104. The remaining hours may be selected from any other courses in the Department for which the student is eligible, subject to the approval of the Departmental Adviser. All majors are expected to register for Senior Seminar for one semester of their senior year.

Related Work: Courses in at least two Natural Science Departments sufficient to total, with major work, 42 s.h. (B.S., 48 s.h.).

CHEMISTRY

PROFESSOR SAYLOR, CHAIRMAN; ASSISTANT PROFESSOR STROBEL, DIRECTOR OF UNDER-GRADUATE STUDIES; PROFESSOR HILL, SUPERVISOR OF FRESHMAN INSTRUCTION;
PROFESSORS BIGELOW, GLOCKER (VISITING LECTURER), GROSS, HAUSER, HOBBS,
AND VOSBURGH; ASSOCIATE PROFESSORS BRADSHER AND BROWN;
ASSISTANT PROFESSORS KRIGBAUM AND WILDER; DRs.
BUYSKE AND STANSFIELD AND ASSISTANTS

1-2. GENERAL INORGANIC CHEMISTRY.—Lectures and recitations on the elementary principles of chemistry and on the structure, preparation, properties, and uses of the elements and their compounds. The laboratory work includes qualitative analysis of some of the more common metals. One lecture, two recitations, and three laboratory hours, throughout the year. 8 s.h. (W & E)

PROFESSOR HILL; ASSOCIATE PROFESSORS BRADSHER AND BROWN;
ASSISTANT PROFESSORS KRIGBAUM, STROBEL, AND WILDER;
DRs. BUYSKE AND STANSFIELD AND ASSISTANTS

61. FUNDAMENTALS OF ANALYTICAL CHEMISTRY.—A study of the reactions of electrolytes in solution and of chemical equilibrium illustrated by laboratory experiments involving the techniques of gravimetric, volumetric, and colorimetric analysis. One lecture, one recitation and six laboratory hours. Prerequisites: Chemistry 1-2, and Mathematics 6 or equivalent. 4 s.h. (w)

PROFESSORS SAYLOR AND VOSBURGH; ASSISTANT PROFESSORS KRIGBAUM,
STROBEL, AND WILDER; AND ASSISTANTS

70. QUANTITATIVE ANALYSIS.—A study of the theory and technique of inorganic gravimetric and volumetric analysis. One lecture, one recitation, and six laboratory hours. Prerequisite: Chemistry 61. 4 s.h. (w)

PROFESSORS SAYLOR AND VOSBURGH; ASSISTANT PROFESSORS KRIGBAUM,
STROBEL, AND WILDER; AND ASSISTANTS

131. ADVANCED QUANTITATIVE ANALYSIS.—A second course in the theory and technique of inorganic analysis with special reference to the analysis of complex materials. One lecture and six laboratory hours. Prerequisite: Chemistry 70. 3 s.h. (w)

PROFESSORS VOSBURGH AND SAYLOR AND ASSISTANTS

151-152. ORGANIC CHEMISTRY.—An introduction to the study of the compounds of carbon in which the chemistry of aliphatic and aromatic compounds is considered. Laboratory experiments are selected to illustrate the more important reactions and preparations of organic compounds. Two lectures, one recitation, and three laboratory hours. Prerequisite: Chemistry 61. Course 151 is prerequisite for 152. 8 s.h. (w)

PROFESSORS BIGELOW AND HAUSER; ASSOCIATE PROFESSORS BRADSHER
AND BROWN; ASSISTANT PROFESSOR WILDER; AND ASSISTANTS

206. ELEMENTS OF THEORETICAL CHEMISTRY.—A course in the general principles of physical chemistry for students who do not present credit in calculus. Credit is not given for both 206 and 261-262. Three recitation and three laboratory hours. Prerequisites: Chemistry 70, 151-152, Physics 51-52 or 1-2 and Mathematics,

6 s.h. With the permission of the Director of Graduate Studies, graduate students from other departments may offer other advanced science courses in place of some of these prerequisites. 4 s.h. (w) PROFESSORS SAYLOR AND HOBBS

215. ADVANCED INORGANIC CHEMISTRY.—A study of modern theories of valence and molecular structure; also of inorganic compounds, particularly the less common types, illustrated by suitable laboratory preparations. Prerequisites: Chemistry 261-262, or 206. 1, 3, or 4 s.h. PROFESSORS VOSBURGH AND HILL

216. NUCLEAR CHEMISTRY.—Types and elementary theory of nuclear reactions and the considerations involved in the use of tracers in chemical studies. 1 s.h. Prerequisites: Chemistry 261-262; 262 may be taken concurrently. PROFESSOR HILL

233. INSTRUMENTAL ANALYSIS.—Experiments in the use of physical measuring instruments in chemical analysis with special attention to optical instruments. One lecture and three laboratory hours. Prerequisites: Chemistry 70 and one year of physics. 2 s.h. (w) ASSISTANT PROFESSOR STROBEL; PROFESSORS HOBBS, AND VOSBURGH

234. PHYSICO-CHEMICAL METHODS OF ANALYSIS.—Discussion of physico-chemical principles as applied to methods of instrumental analysis, illustrated by laboratory experiments with emphasis on methods involving electrical techniques. One lecture and three laboratory hours. Prerequisites: Chemistry 70 and either 261-262 or 206; either of the latter may be taken concurrently. 2 s.h. (w) ASSISTANT PROFESSOR STROBEL; PROFESSORS SAYLOR AND VOSBURGH

251. QUALITATIVE ORGANIC ANALYSIS.—Systematic identification of organic compounds, including a study of solubilities and classification reactions. One lecture and six laboratory hours. With permission of the Director of Graduate Studies, graduate students may take three hours of laboratory work instead of six and receive 2 semester hours credit. Prerequisites: Chemistry 70 and 151-152. 3 s.h. (w) PROFESSOR HAUSER AND ASSISTANTS

252. ADVANCED ORGANIC PREPARATIONS.—A laboratory course designed to supplement the student's knowledge of fundamental organic processes by a selected group of laboratory exercises accompanied by oral discussions of techniques and theories pertinent to the experiments. Five hours laboratory and lecture with lectures in alternate weeks. Prerequisite: Chemistry 70 and 151-152. 2 s.h. (w) ASSOCIATE PROFESSOR BROWN AND PROFESSOR BIGELOW

261-262. PHYSICAL CHEMISTRY.—Fundamentals of general theoretical chemistry illustrated by selected laboratory experiments. Two recitations and three laboratory hours. Prerequisites: Chemistry 70, 151-152, Physics 51-52 or 1-2 and Mathematics 51-52 or equivalent. 6 s.h. PROFESSORS HOBBS AND SAYLOR

271. INTRODUCTION TO RESEARCH.—Lectures on the use of chemical literature, research methods, recording and publication of results, and other topics. One lecture. 1 s.h. (w) ASSOCIATE PROFESSOR BROWN

275-276. RESEARCH.—The aim of this course is to give instruction in methods used in the investigation of original problems. It is open to seniors by permission of the Director of Undergraduate Studies. Nine hours a week and conferences. 3 or 6 s.h. (w) PROFESSORS BIGELOW, GROSS, HAUSER, HILL, HOBBS, SAYLOR, AND VOSBURGH; ASSOCIATE PROFESSORS BRADSHAW AND BROWN; ASSISTANT PROFESSORS KRIGBAUM, STROBEL, AND WILDER

DEPARTMENTAL MAJOR

A. For the degree of A.B.

Prerequisites: Chemistry 1-2, Mathematics, 6 s.h.

Major Requirements: 22 s.h., including Chemistry 61, 70, 151-152, and an additional 6 or 7 s.h., which may be satisfied by 261-262 or by 206 together with 2 or 3 s.h. selected from courses 131, 233, 234 and 251.

Related Work: 20 s.h., including Physics 1-2 or Physics 51-52 with the remainder usually in Botany, Geology, Mathematics, Physics, or Zoology.

B. For the degree of B.S.

Prerequisites: Chemistry 1-2, Mathematics, 6 s.h.

Major Requirements: Chemistry 61, 70, 131, 151-152, 234, 251, 261-262.

Related Work: 18 s.h., including Physics, 8 or 10 s.h., and Mathematics 50, 51, and 52.

The language requirements must be satisfied by German and either French or Russian.

ECONOMICS AND BUSINESS ADMINISTRATION

PROFESSOR HOOVER, CHAIRMAN; PROFESSOR DE VYVER, DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSORS BLACK, HANNA, HUMPHREY, LONDON, RATCHFORD, SIMMONS, SMITH, SPENGLER AND VON BECKERATH; ASSOCIATE PROFESSORS JOERG, LEMERT, MANN, MCKENZIE, SAVILLE, AND SHIELDS; ASSISTANT PROFESSORS BELL, CARTTER, DEWEY, AND DICKENS; MESSRS. GUSTUS, HARTLE, AND MANLEY

The courses offered by the Department are listed under three divisions, Economics, Accounting, and Business Administration.

In general, the Economics courses aim to develop in the student such critical and analytical skills as underlie the ability to understand economic problems and institutions, both in their contemporary and in their historical setting. While no particular vocational or professional goal is emphasized, these courses furnish the academic background necessary for many positions in industry, for work in the economic branches of government service, and for graduate study in economics and the social sciences.

Courses in Accounting and Business Administration, although more concerned with general principles than with specific applications, stress in greater measure than courses in Economics the knowledge and techniques useful to students definitely preparing for business careers. The student who majors in Accounting may elect courses in accountancy, business law, and related work, sufficient to qualify for admission to C.P.A. examinations.

ECONOMICS

51-52. PRINCIPLES OF ECONOMICS.—6 s.h. (E & W)

STAFF

This course must be passed by all students planning to elect further courses in Economics and Business Administration.

Sections of Economics 51 will be offered during the spring semester, and sections of Economics 52 will be offered during the fall semester.

103. TRANSPORTATION.—Essential features, problems, and competitive positions of rail, highway, air, and inland-water transportation, with most emphasis on rail transportation. Special attention is given to the economic significance of transportation, and to cost factors, rates and their economic effects and regulations. 3 s.h. (w)

PROFESSOR LONDON

107. CONSERVATION.—A study of the extent and distribution of our natural resources and their service in regional and national development. Emphasis will be placed upon both the natural and human factors involved in the genesis of current problems. Term reports dealing with problems of special interest to those participating will be considered. 3 s.h. (w)

ASSOCIATE PROFESSOR LEMERT

132. THE ECONOMIC HISTORY OF THE UNITED STATES.—A study of the agricultural, industrial, commercial, and financial progress of the United States from colonial times to the present day. 3 s.h. (w)

PROFESSOR SMITH

149. INTERMEDIATE ECONOMICS.—This course develops methods of economic analysis beyond the principles level. Major emphasis is laid on the determination of price and distribution of income. These problems are studied in the context of both competitive and monopolistic market structures. 3 s.h. (w)

STAFF

152. GLOBAL GEOGRAPHY.—The subject matter involves resources patterns and world affairs, geonomic problems, geocultural problems, and geographic factors affecting geopolitical questions. No prerequisite. 3 s.h. (E)

ASSOCIATE PROFESSOR LEMERT

153. **MONEY, CREDIT AND BANKING.**—This course begins with a study of the nature, characteristics, and functions of money, credit, and the commercial banking system. It covers also the history of commercial banking in the United States; the foundation, organization, and functions of the Federal Reserve System; the supervision and control of commercial banks; deposit insurance; and the value of money. 3 s.h. (w) PROFESSOR SIMMONS; PROFESSOR RATCHFORD; ASSOCIATE PROFESSOR SAVILLE; MR. GUSTUS

155. **LABOR PROBLEMS.**—An examination of present-day labor problems followed by an intensive study of methods used by employers and workers in meeting those problems. 3 s.h. (w) PROFESSOR DE VYVER; ASSISTANT PROFESSOR CARTER

161. **EUROPEAN ECONOMIC PROBLEMS.**—This course deals with the losses and economic dislocations of the war, the problem of developing a new pattern of intra-European and world trade, the effort to stabilize prices, expand investments and production, and the effect of economic planning and controls. 3 s.h. (w) PROFESSOR HUMPHREY

169. **ECONOMICS OF CONSUMPTION.**—Economic problems of the family. Factors determining choice; commercial and legal standards for consumer's goods; consumer credit and co-operation; income and standards of living. 3 s.h. (w) ASSOCIATE PROFESSOR SAVILLE

186. **LATIN-AMERICAN ECONOMICS.**—Facts and factors in the economic structure and growth of the Latin-American nations; population, labor productivity, and standards of living; problems of industry, agriculture, and mining; transportation and public utilities; monetary and fiscal policies; the migration of capital; economic thought and institutions. 3 s.h. (w) PROFESSOR SMITH

187. **PUBLIC FINANCE.**—This is a general course in the principles of public finance. It covers the constitutional, economic, and administrative aspects of public revenues, public expenditures, public debts, and intergovernmental fiscal relations. Special attention is given to current trends and problems. 3 s.h. (w) PROFESSOR RATCHFORD

189. **BUSINESS AND GOVERNMENT.**—An examination of the public policies which most directly affect the operation of competition in the business world. The course considers the leading philosophies of public control and economic development, the validity of their presuppositions, and their influence on legislation, court decisions, and administrative law. 3 s.h. (w) ASSISTANT PROFESSOR DEWEY

193. **ECONOMIC SYSTEMS.**—A study of alternative economic systems. An analysis of the basic elements of capitalism and of collectivist types of economic systems. Particular attention is given to an analysis of the economic system of Soviet Russia. Credit for this course will be given only if the student takes Economics 194. Prerequisite: permission of the department. 3 s.h. (w) PROFESSOR HOOVER

194. **ECONOMIC FUNCTIONS OF THE STATE.**—A continuation of Economics 193. A consideration of the economic functions of society and of the contrasting roles of the state in the various economic systems in carrying on these functions. The Nazi system, the quasiosocialized economics of Europe, as well as the modifications of old-style capitalism in the United States are analyzed. Prerequisite: Economics 193. 3 s.h. (w) PROFESSOR HOOVER

201. **SENIOR SEMINAR IN ECONOMICS.**—Problems in theory and applied economics. Readings, reports, and discussion of selected topics. For majors in Economics, with consent of the Department. 3 s.h. (w) STAFF

204. **ADVANCED MONEY AND BANKING.**—Structure and functioning of the monetary and banking mechanism. Presupposes a thorough grounding in the field. Particular attention is given to significant areas involving issues of economic policy. Primary emphasis is placed upon the underlying basis of monetary management and upon its implementation by the central banking authorities. 3 s.h. (w) PROFESSOR SIMMONS

217. POPULATION PROBLEMS AND RESOURCES.—Survey of population theory and policy. Study of national and international trends in population—growth and resource-use, together with analyses of their economic and social implications. 3 s.h. (w)
 PROFESSOR SPENGLER

218. BUSINESS CYCLES.—A study of the various types of cyclical movements in industry, with special emphasis on cycle theory and methods of controlling or modifying business cycles. 3 s.h. (w)
 PROFESSOR HUMPHREY

219. ECONOMIC PROBLEMS OF UNDER-DEVELOPED AREAS.—Consideration and analysis of the economic and related problems of under-developed countries. Some attention will be given to national and international programs designed to accelerate the solution of these problems. 3 s.h. (w)
 PROFESSOR SPENGLER

231. ECONOMIC HISTORY OF EUROPE.—The economic development of Europe from medieval times to the present, treating such topics as the guilds, mercantilism, money, banking, crises, the Industrial Revolution, the interrelationships of government and business, and the economic consequences of war. 3 s.h. (w)
 PROFESSOR SMITH

233. STATE AND LOCAL FINANCE.—A study of expenditures, taxation, and financial administration in state and local governments with emphasis on current problems. Special attention will be given to research methods and materials and to the financial relations between state and local governments. Prerequisite: Economics 187 or consent of instructor. 3 s.h. (w)
 PROFESSOR RATCHFORD

237-238. STATISTICAL METHODS.—A study of statistical methods appropriate for dealing with problems in business and the social sciences. In addition to developing more thoroughly the subjects considered in Business Statistics, the following methods will be considered: simple, multiple, partial, and curvilinear correlation; curve fitting; probability; frequency distributions; and reliability of estimates. Prerequisite: Economics 138 or consent of the instructor. Either semester may be taken for credit. 6 s.h. (w)
 PROFESSOR HANNA

240. NATIONAL INCOME.—A critical survey of the conceptual framework and structure of national income and its components, the reliability of national income estimates, and their use in analyzing questions of economic policy. 3 s.h. (w)
 PROFESSOR HANNA

241. VALUE AND DISTRIBUTION.—This course is a critical survey of the leading contemporary explanations of price formation and of the determination of interest, rent, wages, and profits. 3 s.h. (w)
 PROFESSOR SPENGLER

243. MATHEMATICAL ECONOMICS.—A systematic survey of mathematical economic theory. The principal topics are conditions of static equilibrium, including stability conditions, dynamic models using difference equations, and linear production models of input-output analysis and activity analysis. 3 s.h. (w)
 ASSOCIATE PROFESSOR MCKENZIE

244. INTRODUCTION TO ECONOMETRICS.—The theory of statistical model building in economics. The identifiability of parameters in a system of linear difference equations. The statistical estimation of parameters. The design of dynamic economic models. 3 s.h. (w)
 ASSOCIATE PROFESSOR MCKENZIE

245. PROBLEMS OF MODERN INDUSTRIALISM.—Description and analysis of the growth of modern industrialism, of the structure and operation of large scale industry, of the inter-relations of industrial, political, and legal development, and of the implications for industry of the modern welfare state. 3 s.h. (w)
 [Not offered in 1954-55.]
 PROFESSOR VON BECKERATH

256. LABOR LEGISLATION AND SOCIAL INSURANCE.—A study of the relations of the state to labor problems with special reference to remedial legislation, to interference in labor disputes, and to social insurance. Prerequisite: Economics 155 or with the consent of the instructor. 3 s.h. (w)
 PROFESSOR DE VYVER

257. DYNAMICS OF THE LABOR MOVEMENT.—A study of the forces which have shaped the growth of the labor movement. Special emphasis on the origin of modern trade unionism, relating its growth with western philosophic developments, and with the changing economic and social structure of society in Europe and America. 3 s.h. (w)
ASSISTANT PROFESSOR CARTER

262. TRADE UNIONISM AND COLLECTIVE BARGAINING.—An intensive survey of the trade union as an economic institution is followed by a study of the principles and problems of union-management relationship as found in collective bargaining. Prerequisite: Economics 155 or equivalent. 3 s.h. (w)
PROFESSOR DE VYVER

265. INTERNATIONAL TRADE AND FINANCE.—A study of the fundamental principles of international trade and foreign exchange. Subjects covered will include international specialization, balance of payments, foreign investments, tariffs and commercial policies, exchange control, exchange rates, and international monetary problems. 3 s.h. (w)
PROFESSOR HUMPHREY

268. COMPETITIVE VERSUS MONOPOLISTIC ENTERPRISE.—A study of monopoly and imperfect competition as disturbances of a free, self-regulating market economy in an individualistic democratic political system; of the possibilities of public and private action respecting the preservation of these systems; and of the implications of planning and public welfare policies. 3 s.h. (w)
PROFESSOR VON BECKERATH

[Not offered in 1954-55.]

ACCOUNTING

57-58. PRINCIPLES OF ACCOUNTING.—Principles of single proprietorship, partnership, and corporate accounting. Designed to give the student some insight into accounting techniques and an understanding of financial statements, their preparation and interpretation. Supervised laboratory attendance optional. 6 s.h. (w)
STAFF

60. GENERAL ACCOUNTING.—A one semester course in accounting principles designed for economics majors and other non-business administration students who desire some understanding of basic accounting concepts. This course must be taken in the sophomore or junior year. Students may not receive credit for both Course 60 and Course 57-58. 3 s.h. (w)
ASSISTANT PROFESSOR DICKENS

147. ACCOUNTING FOR CONTROL.—This course traces the ways and means of executive control through statistics and industrial accounting. Emphasis is placed upon controlling business enterprises through cost accounting, financial reports, and other techniques. This course is not open to accounting majors. Prerequisite: Economics 57-58. 3 s.h. (w)
PROFESSOR BLACK

171-172. ADVANCED ACCOUNTING.—Advanced accounting theory and practice applied to the managerial problems of valuation and operation in corporations, consolidations, mergers, and liquidations. Open to students who have completed Economics 57-58. 6 s.h. (w)
ASSOCIATE PROFESSOR SHIELDS

173-174. AUDITING, THEORY AND PRACTICE.—This course is primarily concerned with preparing the student to enter public accounting practice, but some attention is given to internal auditing. During the first semester, auditing techniques and methods are studied through the use of an audit practice set. The work of the second semester deals with matters of auditing and accounting policy examined from the standpoints of the supervising accountant, the business manager, and the investor. Prerequisite: Economics 171-172 and the permission of the department. 6 s.h. (w)
ASSISTANT PROFESSOR BELL

175-176. C.P.A. REVIEW.—Thorough practice in classroom to prepare candidates for the Certified Public Accountant examination. The object is to train students to apply accounting principles and to work in classroom under substantially the same conditions as in the examination room. Practical accounting problems, auditing analysis and theory of accounts. Prerequisite: Economics 171-172 and permission of the department. 6 s.h. (w)
PROFESSOR BLACK

Those who do not wish credit may take Economics 175-176 for \$25.00 per semester.

177. INCOME TAX ACCOUNTING.—A study of the accounting principles involved in the management of business enterprise under the requirements of Federal income tax laws. Practice is given in the preparation of tax returns. Prerequisite: Economics 171-172 or permission of the instructor. 3 s.h. (w)

ASSOCIATE PROFESSOR SHIELDS

178. ACCOUNTING SYSTEMS.—A presentation of the design and use of basic accounting procedures as applied to specialized business needs. Field trips to selected business units will be arranged. Prerequisite: Economics 171-172 and the permission of the department. 3 s.h. (w)

ASSISTANT PROFESSOR DICKENS

[Not offered in 1954-55.]

180. GOVERNMENT ACCOUNTING.—Accounting principles and methods used in the control and administration of governmental units. Emphasis is placed upon state, county, and municipal governments. Prerequisite: Economics 57-58 and permission of the instructor. 3 s.h. (w)

ASSOCIATE PROFESSOR SHIELDS

275-276. ADVANCED INDUSTRIAL ACCOUNTING AND MANAGEMENT.—A comprehensive examination of the rationale and techniques of control methods used in industry. Emphasis is laid on a critical evaluation of the practices followed by job-order, process, and standard costing as well as the economics of overhead costs. Prerequisites: Economics 171-172 and permission of the Department. 6 s.h. (w)

PROFESSOR BLACK

BUSINESS ADMINISTRATION

11. ECONOMIC GEOGRAPHY.—A course in regional economic geography embracing the study of the world's major geographic regions, their present and potential production of food and raw materials for manufacture, and the relationship between these factors and the development of manufacturing industries, cities, and commerce. Offered both semesters. 3 s.h. (E & W)

ASSOCIATE PROFESSOR LEMERT

105. INDUSTRIAL MANAGEMENT.—This course deals primarily with the elements and problems of managing the operations of an industrial firm. Topics treated include the functions and responsibilities of management, qualities required in executives, organization, location, the physical plant, materials control, the planning and control of operations, industrial and market research, personnel, budgeting, purchasing, and records and reports. Offered both semesters. 3 s.h. (w)

PROFESSOR LONDON AND ASSOCIATE PROFESSOR JOERG

109. THE ECONOMIC GEOGRAPHY OF LATIN AMERICA.—This course involves comprehensive study of the resources and people of Mexico, the West Indies, and Central and South America. Special emphasis is placed upon the possibilities and limitations of increases in trade between the United States and the leading Latin-American countries. 3 s.h. (E)

ASSOCIATE PROFESSOR LEMERT

115. FUNDAMENTALS OF GEOGRAPHY.—A study of geographic influences consisting of location, maps and their interpretation, climate, topography, soils, minerals, bodies of water, plants, animals, and the works of man. This course is required of all students in the Elementary School Teaching program, and is also recommended for those intending to specialize in foreign trade or the diplomatic service. 3 s.h. (E)

ASSOCIATE PROFESSOR LEMERT

116. PRINCIPLES OF ECONOMIC GEOGRAPHY.—A study of the economic resources of the world; the products of the agricultural and manufacturing industries; trade routes and trade centers; and influence of geographic factors on the economic development of nations. This course is recommended for those intending to specialize in foreign trade or the diplomatic service. Prerequisite: Economics 115. 3 s.h. (E)

ASSOCIATE PROFESSOR LEMERT

118. ECONOMIC GEOGRAPHY OF THE SOUTH.—A study of the agricultural, commercial, and industrial development, with special emphasis upon the expansion of Piedmont industries. 3 s.h. (E)

ASSOCIATE PROFESSOR LEMERT

120. ECONOMIC GEOGRAPHY OF THE PACIFIC.—The physical influences, natural resources, and economic activities of Asia, Oceania, and portions of the western coasts of North and South America with special emphasis upon their relationship to present developments. 3 s.h. (E) ASSOCIATE PROFESSOR LEMERT

138. BUSINESS STATISTICS.—A survey of the principal statistical methods and their application to economics and business administration. The course deals with collection of statistical data, construction of statistical tables and charts, and a brief study of the fundamental statistical concepts and techniques. Offered both semesters. 3 s.h. (w) PROFESSOR HANNA; ASSOCIATE PROFESSOR SAVILLE; MR. HARTLE

Open to juniors and to sophomores in the second semester. Not open to seniors except with the permission of the Director of Undergraduate Studies.

143. CORPORATION FINANCE.—Principles and problems in the financial organization of corporations; the study of corporate securities, the management of capital, the distribution of earnings; industrial combinations; insolvency and reorganization. Though not a prerequisite, Economics 57-58, Principles of Accounting, or Economics 60, General Accounting, are recommended to students electing this course. Offered both semesters. 3 s.h. (w) ASSOCIATE PROFESSOR JOERG AND ASSISTANT PROFESSOR BELL

144. INVESTMENTS.—A study of the investment policies of individuals and institutions; the securities markets; sources of investment information and data; the analysis and interpretation of financial statements. Prerequisites: Economics 57-58 or 60, and 143. 3 s.h. (w) ASSOCIATE PROFESSOR JOERG

158. INSURANCE.—The development and basic principles of insurance. This course covers such topics as business uses, policy contracts, costs, and regulation of insurance. Life and fire insurance are emphasized. 3 s.h. (w) ASSOCIATE PROFESSOR SAVILLE

168. MARKETING.—The topics covered in this course include the economic importance of markets and the marketing system; marketing functions; organization, and methods, price policies; finance; speculation; market research and the planning of marketing activities; co-operative marketing; criticism of marketing and means for improvement; and regulation. 3 s.h. (w) PROFESSOR LANDON

181. BUSINESS LAW.—The fundamental principles of law as applied to routine business transactions. The topics presented are: contracts, negotiable instruments, forms of business organizations. 3 s.h. (w) MR. MANLEY

182. BUSINESS LAW.—A continuation of 181. The topics presented are: agency, bailments, sales, and related principles. 3 s.h. (w) MR. MANLEY

184. COMMERCIAL LAW FOR ACCOUNTANTS.—A review and summation of commercial law principles as they apply to accounting theory and practice. Emphasis will be placed upon the commercial law sections of the Certified Public Accountant examinations. Students are admitted to the course by permission of the instructor. For seniors. 3 s.h. (w) PROFESSOR BLACK

188. PERSONNEL MANAGEMENT.—A study of the fundamental principles and problems of labor management and of collective bargaining under modern industrial conditions and under existing labor legislation. 3 s.h. (w) PROFESSOR DE VYVER

191. BUSINESS POLICY.—An integrating course, where through analysis of a series of case problems from the top management viewpoint, the student is given practice in arriving at effective courses of action to solve business problems. To complete this course satisfactorily the student will be required to draw upon the institutional knowledge and techniques acquired in the other courses in the Department. Prerequisites: Business Administration requirements through the junior year. 3 s.h. (w) STAFF

DEPARTMENTAL MAJORS

1. ECONOMICS

A. *Prerequisites:*

1. Students are urged although not required to take Mathematics 5 as partial fulfillment of the Minimum Uniform Requirements in the Natural Sciences and Mathematics.
2. Economics 51-52.

B. *Number of hours needed:* 24 hours in addition to Economics 51-52.

1. Required courses—Economics 149
Economics 153
2. Electives—18 semester hours of work in Economics (not Accounting or Business Administration) of which 9 semester hours shall be advanced courses in the Department.

C. *Related Work:*

1. Number of hours needed: 18 hours.
2. Required courses: one of the following—

Economics 57-58	Principles of Accounting
Economics 60	General Accounting
Economics 138	Business Statistics
3. Departments in which related work is usually taken:
Mathematics, Psychology, the social sciences and Business Administration.
In special cases courses taken in other departments may be counted as related work with the approval of the department and the dean.

2. ACCOUNTING

For the requirements for a major in Accounting, see page 91 of this Bulletin.

3. BUSINESS ADMINISTRATION

For the requirements for a major in Business Administration, see page 91 of this Bulletin.

EDUCATION

PROFESSOR CARTWRIGHT, CHAIRMAN; PROFESSOR CARR, DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSORS BOLMEIER AND CHILDS; ASSOCIATE PROFESSORS EASLEY, MCLENDON, RUDISILL, STUMPF, AND WEITZ; ASSISTANT PROFESSORS COLVER, GEHMAN, INGLES, JACOBANSKY, MASSEY, PETTY, RAPPAPORT, REYNOLDS, AND ZUKOWSKI;
AND ASSISTANTS

Courses in the Department of Education are designed for two groups of students: (1) students with teaching experience or others who have definitely chosen teaching as their life-work, and (2) students who desire to study the school as an outstanding social institution. The courses listed in Nursing Education are for students preparing to teach in schools of nursing.

Students who do not expect to teach but merely desire an understanding of the school as part of a liberal education are advised to elect such courses as 84 and 88 for their introductory work in the Department and then to elect further work in accordance with their special interests. Students who expect to teach in the public schools should plan their courses in accordance with the general regulations set forth under Teaching on page 92 of this catalogue. *All prospective teachers must enroll in courses 84 and 88, preferably beginning before their junior year. They are then required to complete courses 103, 118, and 101-102 or 115-116 in their senior year.*

1. ORIENTATION IN STUDY AND STUDY HABITS.—A course for freshmen whose high-school and other records indicate the need for help in working out satisfactory study methods and in adjusting to college life. Note-taking from reading and lectures, time planning, remedial reading, and pertinent principles of the psychology of learning are among the matters considered. *Either semester. 3 s.h.*

(w)

[Not offered 1955-56.]

5. **DEVELOPMENTAL READING.**—A course consisting of study and practice for the improvement of the reading and study skills. Work is provided in such areas as vocabulary, speed of comprehension, critical interpretation, organization of ideas, and versatility of method in reading for different purposes. 3 s.h. (w)

ASSOCIATE PROFESSOR RUDISILL

84. **SOCIAL FOUNDATIONS OF EDUCATION.**—This course is the first of four intended to give the student a thorough survey of the place and function of education and an understanding of the school as a social institution. It is an introductory course emphasizing those historical, philosophical, and sociological factors which explain trends in American education. *Either semester.* 3 s.h. (w & e)

PROFESSORS CARTWRIGHT; ASSOCIATE PROFESSORS STUMPF AND McLENDON

NOTE: Courses 84, 88, 103, and 118 constitute a sequence of 12 hours in Education required of all prospective teachers. Students who intend to teach in the elementary school should confer with Professors Carr or Petty and students who intend to teach in the secondary school should confer with Professors McLendon or Reynolds in order to work this sequence into their schedules. See courses under Nursing Education for modified sequence of courses for students preparing to teach in schools of nursing.

88. **EDUCATIONAL PSYCHOLOGY: LEARNING AND MEASUREMENT.**—This course and Education 118 constitute a general introduction to the field of Educational Psychology. This course deals with (1) the psychology of learning, including: the nature of the learning process; general principles or laws of learning; the course of learning and forgetting; factors influencing efficiency in learning and retention; and the transfer of training; and (2) measurement, including: the basic concepts in the measurement of intelligence; standardized achievement tests; the extent and significance of individual differences in ability and performance. Opportunity will be afforded for examination and study of a variety of tests of intelligence and achievement. *Either semester.* 3 s.h. (e)

ASSOCIATE PROFESSORS EASLEY AND RUDISILL;
AND ASSISTANT PROFESSOR GEHMAN

See note following course 84.

101-102. **ELEMENTARY EDUCATION: PRINCIPLES AND PRACTICE.**—The study of the nature, subject matter, and methods of elementary education. The course is designed to give prospective elementary teachers an understanding of basic principles and practices in the organization of instruction and of subject matter for the primary and grammar grades of the public school. Students may elect primary or grammar-grade work, according to their special interests. The specific problems which arise in the student teachers' experiences are treated in group and individual conferences. *For seniors only.* 9 s.h. (e)

PROFESSOR CARR AND ASSISTANT PROFESSOR PETTY

NOTE: Education 101-102, 103, and 118 constitute a semester's work during the senior year.

103. **ORGANIZATION AND MANAGEMENT OF THE SCHOOL.**—An introduction to the problems of school organization and administration which are of particular concern to the classroom teacher. Although federal and state control over education is briefly reviewed, the main consideration is the local school system. Considerable attention is given to the administration of teaching personnel, pupil personnel, and the program of studies. *Either semester.* 3 s.h. (e)

PROFESSOR BOLMEIER AND ASSOCIATE PROFESSOR STUMPF

See notes following course 84, 101-102, 215-216.

118. **EDUCATIONAL PSYCHOLOGY: PSYCHOLOGICAL DEVELOPMENT.**—This course traces the psychological development of the individual from infancy to maturity. The principal topics considered are: the interdependence of hereditary and environmental factors in development, the nature of the development process, the establishment of the early basic patterns of behavior, changes and conditions producing these changes throughout childhood and adolescence to maturity, and the origin and treatment of minor behavior disorders. To the degree practicable, students will observe children in typical and atypical situations as a means of securing concrete data on the problems treated in the course. Not open to stu-

dents who have had Psychology 121 or 126. Prerequisite: three semester hours in psychology or educational psychology. *Either semester.* 3 s.h. (E)

ASSOCIATE PROFESSOR EASLEY AND ASSISTANT PROFESSOR GEHMAN

See notes following course 84, 101-102, 215-216.

142. CHILDREN'S LITERATURE.—Students enrolled will be allowed to specialize in literature of either the primary or the grammar grades. 3 s.h. (E)

PROFESSOR CARR AND ASSOCIATE PROFESSOR RUDISILL

161. INTEGRATED ART IN THE PUBLIC SCHOOL.—Work in materials and methods as applied in two dimensional art. (Required of all students intending to teach in the elementary school.) 3 s.h. (E)

MR. STARS

162. PLASTIC ART IN THE PUBLIC SCHOOL.—Work in basic three dimensional art, giving an understanding of different sculptural media with special emphasis on ceramics. The course is designed for students in elementary and secondary art education, and will provide credit toward the North Carolina Elementary and Secondary Teaching Certificates. 3 s.h. (E)

MR. STARS

164. VOCAL MUSIC IN THE PUBLIC SCHOOL.—Materials and methods of teaching vocal music in the junior and senior high schools; emphasis on organization, administration, and performance of school choirs and ensembles; care of the changing voice. 3 s.h. (E)

ASSISTANT PROFESSOR SAVILLE

166. INSTRUMENTAL MUSIC IN THE PUBLIC SCHOOL.—Materials and methods of teaching instrumental music in the junior and senior high schools; emphasis on teaching technics, repertoire, organization, and administration of the instrumental curriculum. 3 s.h. (E)

ASSOCIATE PROFESSOR BONE

201. TEACHING AND SUPERVISION OF ARITHMETIC.—Special attention is given to the number system, the fundamental operations (with whole numbers, fractions, and decimals), percentage, and measurements. Considered also are the meaning theory, methods of teaching, problem solving, evaluation, practice and drill, and selection and gradation of arithmetical contents. The course is designed for teachers and supervisors in the elementary school. 3 s.h. (E)

ASSISTANT PROFESSOR PETTY

203. PRINCIPLES OF SCHOOL ADMINISTRATION.—The fundamental facts and procedures of school administration, an analysis of the problems and policies of the organization and direction of a local school system and the functions of the various school officials. Prerequisite: six semester hours in education. 3 s.h. (E)

PROFESSOR BOLMEIER AND ASSOCIATE PROFESSOR STUMPF

205. CURRICULUM PROBLEMS IN SECONDARY EDUCATION.—A consideration of the aims and objectives of secondary school subjects, emphasizing practical problems of curriculum-making in the high school. 3 s.h. (E)

PROFESSOR CHILDS

213. PROBLEMS IN THE ORGANIZATION AND ADMINISTRATION OF THE ELEMENTARY SCHOOL.—A study of the work of the elementary school principal. 3 s.h. (E)

[Not offered 1955-56.]

215-216. SECONDARY EDUCATION: PRINCIPLES AND INTERNSHIP.—A one-semester course, the first half of which is devoted to an intensive study of principles, curriculum, and methods in secondary education. The second half consists of supervised internship in public junior or senior high schools. Students carrying this course for credit toward a master's degree will be required to take six hours of senior or graduate work in addition to the normal degree requirements. *Either semester.* 9 s.h. (E)

ASSOCIATE PROFESSOR MCLENDON AND

ASSISTANT PROFESSOR REYNOLDS

Note: Education 215-216, 103, and 118 constitute a semester's work during the senior year.

224. TEACHING THE SOCIAL STUDIES IN ELEMENTARY SCHOOLS.—This course treats objectives, curriculum trends, methods, and materials in elementary-school social studies. Topics receiving emphasis include unit-planning, use of textbook, the reading program, the using of community resources, audio-visual

materials, dealing with controversial issues, teaching time and place concepts, and evolution. Opportunity is provided for teachers to work on their own school problems in the social studies. 3 s.h. (E) PROFESSOR CARTWRIGHT

225. THE TEACHING OF HISTORY AND THE SOCIAL STUDIES.—Evaluation of the objectives, content, materials, and methods in the teaching of History and the Social Studies. 3 s.h. (E) PROFESSOR CARTWRIGHT

226. TEACHING READING IN THE ELEMENTARY SCHOOL.—A study of the nature of the reading process and of principles, methods, and materials for the development of effective reading attitudes and skills as applied both to developmental and remedial programs. Practice is provided with elementary-school children suffering reading retardation, in testing, diagnosis, and daily remedial teaching. 3 s.h. (E) ASSOCIATE PROFESSOR RUDISILL

227. THE PSYCHOLOGY OF LEARNING: PROBLEMS.—The major problems related to the learning process will be examined with the experimental literature bearing on them. The curves of learning and forgetting, the distribution of practice, economical methods of learning, and the transfer of training will be the major topics considered. 3 s.h. (E) ASSOCIATE PROFESSOR EASLEY
[Not offered in 1955-56.]

228. IMPROVEMENT OF INSTRUCTION IN THE SOCIAL STUDIES.—An advanced treatment of curriculum, methods, and materials in the social studies. Individuals will concentrate on subjects and grade levels of their choice. 3 s.h. (E) ASSOCIATE PROFESSOR MCLENDON

232. SUPERVISION OF INSTRUCTION.—A survey of supervision as a means of improving instruction and adapting the curriculum to the learner and to community needs. 3 s.h. (E) PROFESSOR CARR

234. SECONDARY-SCHOOL ORGANIZATION AND ADMINISTRATION.—This course is designed especially for principals, teachers, and other prospective members of the secondary-school staff. The scope of secondary education is considered to encompass junior high school, regular high school, senior high, and junior college. Special treatment is given to the problems of internal organization and management. 3 s.h. (E) PROFESSOR BOLMEIER

236. TEACHING READING IN THE SECONDARY SCHOOL.—A study of the nature of the reading process and of principles, methods, and materials for the development of effective reading attitudes and skills as applied both to developmental and remedial programs. Practice is provided with secondary-school children suffering reading retardation, in testing, diagnosis, and daily remedial teaching. For secondary-school teachers of all subjects who wish to improve the reading and study habits of their students. 3 s.h. (E) ASSOCIATE PROFESSOR RUDISILL

240. EDUCATIONAL AND OCCUPATIONAL INFORMATION.—A study of the sources of occupational and educational information: methods of securing and organizing occupational information; methods of providing vocational and educational information to students through career days, college conferences, class activities, and individual counseling; methods of making job analyses and community occupational surveys. 3 s.h. (w) ASSISTANT PROFESSOR COLVER

241. PRINCIPLES OF GUIDANCE.—An historical survey of the philosophies of guidance; a study of the interrelationships between instruction, administration, and guidance in education. Prerequisite: 6 hours of psychology or educational psychology. 3 s.h. (w) ASSISTANT PROFESSOR COLVER

246. THE TEACHING OF MATHEMATICS.—This course deals with such topics as aims, curriculum, course and lesson planning, and classroom procedure for teaching secondary-school mathematics. 3 s.h. (E) ASSISTANT PROFESSOR REYNOLDS

253. SCHOOL LAW.—The primary purpose of this course is to familiarize prospective school administrators and teachers with the legal features of school organization and administration. Although some attention is given to constitutional and statutory provisions, the main emphasis is upon court decisions relating to education. Students are expected to select appropriate problems in school law for intensive study. 3 s.h. (E) PROFESSOR BOLMEIER

258. **EDUCATIONAL MEASUREMENTS.**—A critical study of the principles and techniques involved in measurement in education with opportunity for individual research. Prerequisite: 12 semester hours in the Department, including a course in educational psychology. 3 s.h. (E) ASSOCIATE PROFESSOR WEITZ

267. **THE TEACHING OF SCIENCE IN THE ELEMENTARY SCHOOL.**—This course deals with such topics as aims and values, curriculum materials, classroom and laboratory procedures, field trips, lesson planning, and grade placement for science teaching in the elementary school. 3 s.h. (E) ASSISTANT PROFESSOR REYNOLDS

276. **THE TEACHING OF HIGH-SCHOOL SCIENCE.**—Discussion, lectures and collateral reading, related to such topics as aims, tests, curriculum, classroom and laboratory procedure, field trips, course and lesson planning for secondary-school science. 3 s.h. (E) ASSISTANT PROFESSOR REYNOLDS

290. **ADMINISTRATION OF SCHOOL PROPERTY.**—Planning and management of the school plant and its equipment to meet instructional, health, and community needs for immediate and long-range purposes. This course is intended for teachers and principals as well as for superintendents. Areas to be treated include site selection; trends in design, lighting, ventilation and heating; custodial service and maintenance; and financing. 3 s.h. (E) ASSOCIATE PROFESSOR STUMPF
[Not offered in 1955-56.]

NURSING EDUCATION

Students preparing for administrative, teaching, or supervisory positions in schools of nursing must take, in addition to other courses, substantially the same basic program of work in Education as do prospective secondary school teachers, namely, courses 84, 88, 103, 115-116, and 118. Course 101N below is substituted for course 103 in this program. Courses 84N and 115N-116N are sections of courses 84 and 115-116, respectively, designed especially for nurses.

84N. **SOCIAL FOUNDATIONS OF NURSING EDUCATION.**—A special section of Education 84, applied to Nursing Education. A survey of major historical, philosophical, and sociological factors which have affected developments in nursing and nursing education. The purpose of the course is to give the student a better understanding of the place of nursing in present day society and the responsibilities of the individual nurse toward that society. 3 s.h. (w)

ASSISTANT PROFESSOR RAPPAPORT

101N. **THE CURRICULUM IN THE SCHOOL OF NURSING.**—The general principles of curriculum making and the factors which determine the content and organization of the nursing school curriculum are considered in this course. 3 s.h. (w)

ASSISTANT PROFESSOR INGLES

115N-116N. **NURSING EDUCATION: PRINCIPLES AND PRACTICE.**—A special section of Education 115-116. Principles of teaching applied to the nursing school situations and the planning and evaluation of instruction. Ninety hours of observation and of supervised teaching in the Duke University School of Nursing are required. Four hours of conference, observation, and practice teaching are required each week. Before beginning practice teaching students must complete thirty hours of observation. 8 s.h. (w)

ASSISTANT PROFESSOR RAPPAPORT

[Not open to students who have had course 115-116.]

117N. **COMMUNITY NURSING SERVICE.**—Designed for administrators, teachers, and supervisors in schools of nursing. Emphasis is on the integration of out-patient departments and community social and health agencies into the nursing school curriculum and on the preparation of nurses for community service. 3 s.h. (w)

ASSISTANT PROFESSOR MASSEY

120N. **NURSING EDUCATION: PROBLEMS IN NURSING CARE.**—Each student works on an individual problem designed to improve the nursing care of patients. 3 s.h. (w)

ASSISTANT PROFESSORS INGLES AND ZUKOWSKI

124N. NURSING EDUCATION: TEACHING OF THE NURSING ARTS.—In this course an effort is made to help prospective teachers to integrate the facts and principles of the natural, social, and medical sciences into the teaching of nursing arts. Though major emphasis is placed upon problems which are involved in teaching the first course, the concept of the nursing arts as an integral part of each clinical area is stressed. 3 s.h. (w)
STAFF

130N. PSYCHOSOMATIC NURSING.—A study of the close relationship between mind and body in all illness, and of the techniques of observation and interview, both experimental and therapeutic. Lectures, clinics, conferences, discussions and experience with patients. 4 s.h. (w)
ASSISTANT PROFESSOR ZUKOWSKI

131N-132N. PSYCHIATRY AND PSYCHIATRIC NURSING.—An advanced study with special emphasis on personality development and the preventive and therapeutic aspects of psychiatry and psychiatric nursing. In the second semester the management of practical situations of increasing complexity is stressed. Lectures, clinics, conferences, discussions and experience with patients. 8 s.h. (w)
ASSISTANT PROFESSOR ZUKOWSKI

133N. SEMINAR IN PSYCHIATRIC NURSING.—Special study of areas such as behavior problems of children, projective tests, group therapy, mental hygiene clinics, etc. 3 s.h. (w)
ASSISTANT PROFESSOR ZUKOWSKI

134N-135N. ADVANCED MEDICAL AND SURGICAL NURSING.—A study of the medical and surgical aspects of selected diseases, aimed at giving the student a better comprehension of the total care necessary to bring about the best possible results for patients. Lectures, discussions, case histories, and planned observation and experience with patients. 8 s.h. (w)
ASSISTANT PROFESSOR INGLES

136N. SEMINAR IN MEDICAL OR SURGICAL SPECIALTY.—Directed study in a selected medical or surgical specialty. Each student works on a problem of major interest to her. Individual research in the collection of original material. 3 s.h. (w)
ASSISTANT PROFESSOR INGLES

192N. PRINCIPLES AND METHODS OF TEACHING IN SCHOOLS OF NURSING.—The primary purpose of this course is to help teachers in schools of nursing to understand and to utilize generally accepted principles of learning and to carry out a more effective teaching program in a school of nursing. Instruction is given in the planning of courses, in methods of teaching in classrooms and in hospital divisions, in construction of examinations, and in the utilization of other methods of determining the effectiveness of a teaching program. 3 s.h.
ASSISTANT PROFESSOR RAPPAPORT

193N. WARD ADMINISTRATION AND TEACHING.—This course is designed to help head nurses better to understand their functions in planning and managing a program on a hospital division which will result in improved care of patients, greater satisfaction for professional and non-professional personnel, and a more adequate teaching program for students and others. 3 s.h. (w)
PROFESSOR CLARK AND ASSISTANT PROFESSOR INGLES

195N. PERSONNEL WORK IN SCHOOLS OF NURSING.—The primary purpose of this course is to help head nurses and supervisors to develop greater understanding of the principles of human behavior and greater ability to apply these principles in working with patients and others on hospital divisions, and in establishing cooperative relationships with other departments of the hospital. 3 s.h. (w)
PROFESSOR JACOBANSKY

DEPARTMENTAL MAJOR

Major Requirements: 1. Number of hours needed; 24 hours in the Department. 2. Required courses: 84, 88, 103, 118; and for elementary teachers, 101-102; for secondary teachers, 215-216.

Related Work: Sufficient work in subjects to be taught to meet certification requirements in state in which student intends to teach.

MATERIALS AND METHODS COURSES

Certain courses concerned with materials and methods in teaching the various subjects in the public school curriculum are listed in the proper subject matter department. These courses are intended to give credit on teaching certificates and are recommended by the Department of Education for such credit.

ENGLISH

PROFESSOR WARD, CHAIRMAN; PROFESSOR BEVINGTON, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR BOWMAN, SUPERVISOR OF FRESHMAN INSTRUCTION;
 PROFESSORS BAUM, BLACKBURN, BOYCE, BRINKLEY, GILBERT, GOHDES, IRVING, SANDERS, AND TURNER; VISITING LECTURER WOODRESS; ASSOCIATE PROFESSORS HARWELL, MITCHELL, PATTON, REARDON, AND WHITE; ASSISTANT PROFESSORS BEVINGTON, BUDD, JORDAN, POTEAT, SCHWERMANN, AND WETHERBY; DRs. BOWERS, BROOKS, FRASER, KOTTLER, LANE, MAJOR, REICHARD, SMITH, AND WICKES; MISS LIBBY;
 MESSRS. HOLMES, KEIRCE, MICHALAK, NEWELL, TEETS, AND WOODS

L. ENGLISH FUNDAMENTALS.—All freshmen whose scores on the placement tests indicate that they are not ready for English 1 must take this course. Students who fail in English L must repeat the course. Students who have earned credit in English L must also take English 1 and 2. 3 s.h. (w)

ASSISTANT PROFESSOR JORDAN AND MR. NEWELL

1-2. ENGLISH COMPOSITION.—All freshmen are required to take course 1 and course 2. (For exemptions, see Uniform Course Requirements, p. 89.)

Students who fail in English 1 or 2 must repeat the course in the following semester. Students in courses 1 and 2 who fail to make an average of "C" or better are strongly advised to earn credit for an additional course in English composition. 6 s.h. (E & w)

PROFESSORS BEVINGTON AND WARD; ASSOCIATE PROFESSORS BOWMAN, HARWELL, MITCHELL, PATTON, AND WHITE; ASSISTANT PROFESSORS BEVINGTON, BUDD, JORDAN, AND POTEAT; DRs. BOWERS, BROOKS, FRASER, KOTTLER, LANE, MAJOR, REICHARD, SMITH, AND WICKES; MISS LIBBY; MESSRS. HOLMES, KEIRCE, NEWELL, TEETS, AND WOODS

33. WRITING LABORATORY.—A non-credit course in elementary composition which may be elected by students who need it, or may be required of certain students under the conditions stated on page 87, "Deficiencies in Composition." Students may enter or leave this course at any time, at the instructor's discretion. (w)

ASSOCIATE PROFESSOR HARWELL AND ASSISTANT JORDAN

53. ENGLISH COMPOSITION.—A course in advanced composition and grammar. Emphasis is placed first on the student's mastering the fundamental principles of English grammar and the other essentials of correct writing. Weekly themes are required. 3 s.h. (w)

ASSISTANT PROFESSOR JORDAN

65-66. ENGLISH COMPOSITION.—A foundation course in imaginative writing, both prose and verse. Open to sophomores and in special cases to freshmen. The consent of the instructor is required. 6 s.h. (E)

PROFESSOR SANDERS

E-93. ADVANCED COMPOSITION FOR ENGINEERS.—This course concentrates on those forms of writing most needed by men in technical fields, especially engineers. Among other types of writing, it includes business letters, technical reports, and semi-technical articles. Open to non-engineering students only upon consent of the instructor. Prerequisite: English 1 and 2. 3 s.h. (w)

ASSOCIATE PROFESSOR HARWELL AND MR. HOLMES

101-102. EXPOSITORY ENGLISH COMPOSITION.—The course attempts to encourage fluency and accuracy in expository expression. Primarily for juniors and seniors; open also to sophomores approved by the instructor. 6 s.h. (E)

[Not offered 1955-56]

ASSOCIATE PROFESSOR MITCHELL

103-104. **ENGLISH COMPOSITION.**—A course in descriptive and narrative writing. Class discussion of students' manuscripts, supplemented by a critical evaluation of a few selected short stories and by individual conferences with the instructor. Open to sophomores, juniors, and seniors. The consent of the instructor should be secured as early as possible in the spring semester. Prerequisites for English 104: English 103. 6 s.h. (E) PROFESSOR BLACKBURN

107-108. **JOURNALISM.**—The first semester is devoted to news-writing and copy-reading; the second semester to the writing of feature articles and editorials. 6 s.h. (w)

[Not offered 1955-56]

SPEECH AND DRAMA

118. **PERSUASIVE SPEAKING.**—The psychological and sociological techniques used in gaining acceptance of ideas through speech. Study is made of the factors influencing human behavior; audience analysis and motivation; choice, arrangement, and adaptation of material. Extensive practice in persuasive speaking. Prerequisite: English 151 or consent of the instructor. 3 s.h. (w) ASSISTANT PROFESSOR WETHERBY

119. **HISTORY OF THE THEATRE.**—The origin and development of drama, acting, and stagecraft from ancient Greece to the modern European and American theatre. Production problems of representative plays of the various periods will be discussed. Primarily for juniors and seniors, open also to sophomores approved by the instructor. 3 s.h. (E) ASSOCIATE PROFESSOR REARDON

121. **STAGECRAFT.**—An introductory course on the technical aspects of play production: scenery, lighting, properties, make-up, and costuming. Lectures and laboratory. Laboratory work will be coordinated with the various productions of the Duke Players. Primarily for juniors and seniors; open also to sophomores approved by the instructor. 3 s.h. (E)

ASSOCIATE PROFESSOR REARDON AND MR. MICHALAK

122. **PLAY PRODUCTION.**—An introduction to the methods of producing a play: theatre organization, play selection, casting, and rehearsal. Lectures and laboratory. Primarily for juniors and seniors; open also to sophomores approved by the instructor. 3 s.h. (E) ASSOCIATE PROFESSOR REARDON AND MR. MICHALAK

139. **THE SPEAKING VOICE.**—The correction of minor functional speech disorders. The speech organs and their function. The International Phonetic Alphabet and its use. Drill in pronunciation, diction, vocal quality. Primarily for sophomores, juniors, and seniors; also open to freshmen with the consent of the instructor. 3 s.h. (E & w) ASSISTANT PROFESSORS SCHWERMEN AND WETHERBY

[Offered both semesters]

150. **ORAL INTERPRETATION OF LITERATURE.**—A study of poetry and certain types of prose, with practice in the technique by which they may be communicated to an audience. 3 s.h. (w) ASSISTANT PROFESSOR SCHWERMEN

151. **ESSENTIALS OF PUBLIC SPEAKING.**—A basic course in public speaking, designed to give the student the poise and confidence necessary to think and speak freely before an audience. Particular attention is paid to the gathering and organization of speech materials and to oral presentation. 3 s.h. (E & w)

ASSOCIATE PROFESSOR REARDON; ASSISTANT PROFESSORS SCHWERMEN, AND WETHERBY; MR. MICHALAK

152. **ARGUMENTATION.**—The principles of argumentation and debating. The techniques of analysis, investigation, evidence, reasoning, brief making, and refutation. Participation in class discussions and debates. Prerequisite: English 151 or consent of the instructor. 3 s.h. (w) ASSISTANT PROFESSOR WETHERBY

[Offered in the fall semester]

171, 172. **RADIO BROADCASTING.**—The theory and practice of radio broadcasting. The purpose, preparation, and production of various types of radio programs. There will be experience before a microphone in a studio situation. Laboratory work both semesters. Primarily for juniors and seniors; open also to sophomores approved by the instructor. 6 s.h. (w)

ASSISTANT PROFESSOR WETHERBY AND MR. MICHALAK

ENGLISH AND AMERICAN LITERATURE AND LANGUAGE

55, 56. REPRESENTATIVE WRITERS.—The following works are studied in the first semester: Chaucer's Prologue to *The Canterbury Tales* and at least two tales, Shakespeare's *I Henry IV* and *King Lear* and one other play, Jonson's *The Alchemist*, John Donne's poems, Milton's *Paradise Lost* (selections) and some of the shorter poems; in the second semester: Pope's *Poems* (selections), Fielding's *Joseph Andrews*, Keats's *Poems and Letters*, Arnold's *Selected Poetry and Prose*, Dickens's *Bleak House*, Yeat's *Collected Poems*, Shaw's *Saint Joan*, and a twentieth-century novel.

PROFESSORS BEVINGTON, BLACKBURN, BOYCE, IRVING, SANDERS, AND TURNER;
ASSOCIATE PROFESSORS BOWMAN, MITCHELL, AND PATTON; ASSISTANT
PROFESSORS BEVINGTON AND POTEAT; DRs. BOWERS, FRASER,
KOTTLER, LANE, MAJOR, REICHARD, SMITH, AND WICKES

111, 112. EIGHTEENTH-CENTURY LITERATURE.—A study of the leading English poets, essayists, dramatists, and novelists from Swift to Blake, with the literary and social background. The major writers studied in the first term are Pope, Swift, Fielding, and Thomson; in the second term, Johnson, Goldsmith, Cowper, and Blake. Tests, discussions, and reports on outside readings. 6 s.h. (E)
PROFESSOR BOYCE AND DR. REICHARD

117. MILTON.—Milton's poetry and prose, together with their relation to the period and to other great works of literature. Lectures, discussion, occasional tests, one or two papers. 3 s.h. (E)
PROFESSOR BRINKLEY

123, 124. SHAKESPEARE.—In the first semester twelve plays, before 1600; in the second semester ten plays, after 1600. Occasional tests and one or two papers. 6 s.h. (E & W)
PROFESSOR BOYCE; ASSOCIATE PROFESSOR
BOWMAN; DR. FRASER

125, 126. ENGLISH LITERATURE, 1789-1832.—The course begins with selections from the poetry of the forerunners of Romanticism. The chief emphasis in the first semester is on the work of the older Romantics: Wordsworth, Coleridge, Southey, Scott, and Lamb. In the second semester the chief emphasis is on the work of the younger Romantics: Byron, Shelley, Keats, Leigh Hunt, Hazlitt, and DeQuincey. Informal lectures and class discussion of assigned texts. A limited amount of outside reading is required and also some memory work. There are four tests each semester. 6 s.h. (E & W)
ASSOCIATE PROFESSOR PATTON;
DRs. BROOKS AND LANE

129, 130. ENGLISH NOVEL.—The work of the first semester covers the history of the novel through Scott; that of the second semester, from Dickens through Hardy. Lectures and book reports. 6 s.h. (E)
ASSOCIATE PROFESSOR MITCHELL
AND DR. REICHARD

131, 132. ENGLISH LITERATURE, 1832-1900.—A study of the chief English writers of poetry, prose, and drama from Carlyle to Yeats. The major writers studied in the first semester are Carlyle, Tennyson, Browning, Macaulay, Mill, Newman, and Arnold; in the second semester, Ruskin, the Rossettis, Morris, Swinburne, Shaw, and Yeats, with selections from minor writers. Collateral reading from novels of the period. Lectures, discussions, tests, and a term paper. 6 s.h. (E & W)
PROFESSORS BEVINGTON AND SANDERS

134. CONTEMPORARY POETRY.—A reading course in the poetry of the twentieth century in England, Ireland, and America, beginning with Gerard Manley Hopkins, and William Butler Yeats. An anthology of modern poetry is read and discussed, supplemented by the wider reading of individual poets. Informal lectures and discussions with a critical paper for the term. Open to juniors and seniors, and occasionally to sophomores by special permission. 3 s.h. (E)
ASSISTANT PROFESSOR BEVINGTON

137, 138. AMERICAN LITERATURE.—A survey of American literature from colonial times to the present. Selections from the works of important authors are read, from Cotton Mather to Eugene O'Neill, and complete novels by Hawthorne, Melville, James, Howells, and others. The work of the first semester ends with the Civil War period. Lectures, monthly tests, and a term paper each semester. 6 s.h. (E & W)
PROFESSORS GOHDES AND TURNER; ASSISTANT PROFESSOR
BUDD; VISITING LECTURER WOODRESS

141. CHAUCER.—*The Canterbury Tales* and the minor poems, with attention to their literary, social, and religious background. Lectures, discussions and reports. 3 s.h. (w) DR. KOTTLER

142. MATERIALS AND METHODS OF TEACHING HIGH SCHOOL ENGLISH.—A course in the materials and methods of teaching high school English, planned by the Southern Association of Colleges and Secondary Schools, for the purpose of familiarizing prospective teachers with both the subject matter and the methods of teaching. 3 s.h. (E) ASSISTANT PROFESSOR JORDAN

143, 144. ENGLISH LITERATURE: ELIZABETHAN AND EARLY SEVENTEENTH CENTURY.—A study of the prose, poetry, and drama of the period. First semester: the emphasis in prose is on Sidney; in poetry, on Spenser and Shakespeare; in drama, on Marlowe and Jonson. Second semester: the emphasis in prose is on the English Bible, Bacon, Browne; in poetry, on Donne and on the early poems of Milton; in drama, on Webster and Ford. Lectures, tests, and one or two brief papers. 6 s.h. (E) PROFESSOR BLACKBURN

153, 154. COMPARATIVE LITERATURE.—Important works in European literature are read in translation and related to similar documents in English literature. In the first semester are read: nine Greek tragedies, five of Plato's *Dialogues*, Vergil's *Aeneid*, Dante's *Inferno*, and Cellini's *Autobiography*; in the second semester, Machiavelli, Cervantes, Molière, Voltaire's *Candide*, Goethe's *Faust*, Dostoevski's *The Brothers Karamazov*, Ibsen's plays. Discussions, tests, reports. 6 s.h. (E) PROFESSOR IRVING

155. MODERN EUROPEAN DRAMA.—The emphasis is on Ibsen, Strindberg, and Chekhov, and on the Free Theatre movements. Some quite recent plays will also be studied. 3 s.h. (E) ASSOCIATE PROFESSOR WHITE

156. MODERN BRITISH AND AMERICAN DRAMA.—Types of drama are studied in relation to European origins and to contemporary scene. The students subscribe to *Theatre Arts*. 3 s.h. (E) ASSOCIATE PROFESSOR WHITE

158. CONTEMPORARY FICTION.—Wide reading in twentieth-century novels, with special attention to innovations in form and technique. Lectures, discussions, and weekly critical reports. 3 s.h. (w) DR. SMITH

160. ENGLISH LITERARY BIOGRAPHY.—A reading course in great biographies. Studied are works of Plutarch, Walton, Johnson, Southey, Lockhart, Henry Adams, and Strachey. Lectures, discussions, reports, tests. 3 s.h. (E) PROFESSOR SANDERS

[Not offered 1955-56]

161, 162. MODERN ENGLISH AND ITS BACKGROUNDS.—An elementary historical and descriptive study of the English language: patterns of change and growth, standards of usage and pronunciation. Some attention is given to the methods of linguistic inquiry and to the relations of philology to literary studies. The first semester is devoted chiefly to a historical study of written and spoken English, the second to a description of modern American English. Lectures, discussions, and short reports. 6 s.h. (E) DR. KOTTLER

165. AMERICAN FICTION.—A survey of fiction in America from its beginnings to 1870, with emphasis on the development of the short story. Lectures, discussions, and frequent written reports. 3 s.h. (E) ASSISTANT PROFESSOR BUDD

166. AMERICAN FICTION.—A survey of fiction in America from 1870 to the present, with emphasis on the local color movement and the rise of realism. Lectures, discussions, and frequent written reports. 3 s.h. (E) ASSISTANT PROFESSOR BUDD

FOR SENIORS AND GRADUATES

201, 202. ANGLO-SAXON.—In the first semester, an introduction to the language, with the reading of selected prose and of some of the shorter poems; in the second semester, the *Beowulf*. 6 s.h. (w) PROFESSOR BAUM

203, 204. CHAUCER.—Reading and interpretation of the text: in the first semester the principal *Canterbury Tales*; in the second, the *Troilus* and the minor poems. A reading report and a term paper. 6 s.h. (w) PROFESSOR BAUM

205, 206. MIDDLE ENGLISH.—Close study of selected texts, with attention to the development of the language and to the history of the literature from 1200 to 1400. A term paper each semester. 6 s.h. (w) PROFESSOR BAUM

[Not offered in 1955-56]

215, 216. ELIZABETHAN DRAMA.—Careful study of one or two major dramatists (Jonson or Beaumont and Fletcher) and extensive reading in the other writers (Heywood, Ford, Massinger, Marlowe, Middleton) with emphasis on the nature and qualities of their work in relation to its historical background. Exposition of plays, reports, and a term paper each semester. 6 s.h. (w) PROFESSOR GILBERT

217. MILTON.—Milton's poetry and prose, with emphasis on the major poems. 3 s.h. (w) PROFESSOR GILBERT

[Not offered in 1955-56]

218. SPENSER.—The reading of Spenser's works, with chief attention to *The Faerie Queene*. 3 s.h. (w) PROFESSOR GILBERT

[Not offered in 1955-56]

219, 220. THE EIGHTEENTH CENTURY.—Swift, Pope, Defoe, Addison, Steele, and others are studied in the first semester; in the second, Gray, Johnson, Boswell, Goldsmith, the letter writers, and the early Romantic poets. Lectures, oral reports, and a term paper each semester. 6 s.h. (w) PROFESSOR IRVING

221, 222. ENGLISH LITERATURE OF THE EARLY NINETEENTH CENTURY.—A survey of the principal writers and literary monuments from 1798 to 1830; in the first semester chiefly Wordsworth, Coleridge, and Lamb; in the second, Shelley, Byron, Keats, and Hazlitt. Occasional lectures, frequent classroom discussions of reading assignments, written and oral reports, and a term paper each semester. 6 s.h. (w)

[Not offered in 1955-56]

223, 224. ENGLISH LITERATURE OF THE LATER NINETEENTH CENTURY.—Some of the most important works of the period are discussed; the background is filled in by lectures and assigned reading. The first semester is devoted chiefly to Carlyle, Dickens, Thackeray, Tennyson, and Browning; the second semester to Arnold, Ruskin, Pater, George Eliot, Meredith, the Pre-Raphaelites, and Swinburne. A term paper each semester. 6 s.h. (w) PROFESSOR BAUM

[Not offered in 1955-56]

227. LITERARY CRITICISM.—A study of the Greek and Roman critics, in chronological order but with emphasis on their permanent value rather than on the mere history; also the Continental and English critics to about 1700. Lectures, reports, and a term paper. 3 s.h. (w) PROFESSOR GILBERT

[Not offered in 1955-56]

229, 230. AMERICAN LITERATURE, 1800-1870.—The writers emphasized in the first semester are Emerson, Thoreau, and Hawthorne; in the second semester, Poe and Melville. In the first semester some attention is given also to Edwards, Franklin, Bryant, Longfellow, Holmes, Whittier, Lowell, and Parkman; and in the second semester, to Byrd, Jefferson, Paine, Freneau, Brown, Irving, Cooper, Kennedy, Simms, Timrod, and Lincoln. An oral report and a term paper in the first semester. 6 s.h. PROFESSOR TURNER

231. EMERSON.—A study of Emerson's ideas as reflected in selected examples of his essays and poems. 3 s.h. PROFESSOR GOHDES

[Not offered in 1955-56]

232. WHITMAN.—A detailed study of *Leaves of Grass* and of selected prose works. One test and one term paper. 3 s.h. (E) PROFESSOR GOHDES

[Not offered in 1955-56]

233. AMERICAN LITERATURE 1870-1900.—Selected works of the chief authors of the period, including Whitman, Lanier, Mark Twain, James, Howells, Crane, and Emily Dickinson. The lectures will deal with the social background as well as the literary trends and the careers of the major authors. One test and one term paper. 3 s.h. PROFESSOR GOHDES AND VISITING LECTURER WOODRESS

234. AMERICAN LITERATURE OF THE TWENTIETH CENTURY.—Selected works of representative authors, including Dreiser, Edith Wharton, Mencken, Lewis, Willa Cather, O'Neill, Robinson, Frost, Eliot, Hemingway, and Faulkner. The lectures will deal primarily with literary trends as shaped by the social background. One test and one term paper. 3 s.h. PROFESSOR GOHDES AND VISITING LECTURER WOODRESS

239. SHAKESPEARE.—A study of the plays and poems, with attention to sources, earlier criticism, and the work of Shakespeare's contemporaries. 3 s.h. (w) [Not offered in 1955-56] PROFESSOR GILBERT

245. THE EIGHTEENTH-CENTURY NOVEL.—Richardson, Fielding, Smollett, and Sterne are emphasized. Some attention is given to earlier prose fiction and to other contributing literary patterns. Lectures and short papers. 3 s.h. (w) [Not offered in 1955-56] PROFESSOR BOYCE

251, 252. ENGLISH LITERATURE IN THE SEVENTEENTH CENTURY.—A survey course. The major works in prose, poetry, and drama from 1600 to the death of Dryden. Lectures, reports, and term papers. 6 s.h. (w) PROFESSOR WARD

269, 270. SOUTHERN LITERATURE.—The principal authors and the chief literary developments from the beginnings to the present. Emphasis in the first semester is on Byrd, Kennedy, Simms, Poe, Timrod, and the humorists; in the second on Lanier, Harris, Cable, Mark Twain, Ellen Glasgow, and Faulkner. Attention is given to the historical and cultural background and to literary relations extending outside the region. 6 s.h. PROFESSOR TURNER

274. AMERICAN HUMOR.—The development of the native tradition in the Down-East humorists and the humorists of the Old Southwest. Extensive reading in Mark Twain and his contemporaries, and some attention to the continuation of the tradition after Mark Twain. 3 s.h. [Not offered in 1955-56] PROFESSOR TURNER

DEPARTMENTAL MAJOR

Prerequisite: English 1 and 2.

Major Requirements: Twenty-four semester hours in English and American literature including the following:

1. Six hours in English 55-56.
2. Six hours in one of five designated period courses (143-144, 111-112, 125-126, 131-132, 137-138).
3. Three hours in one of the major authors, Chaucer, Shakespeare, or Milton (203, 204, 141, 123, 124, 117).
4. Nine hours, distributed as follows:
 - (a) Three hours of English literature before 1800. Students who have chosen 143-144 or 111-112 for the period course may substitute any three-hour course approved by their adviser.
 - (b) Three hours of English literature after 1800. Students who have chosen 125-126 or 131-132 for the period course may substitute any three-hour course approved by their adviser.
 - (c) Three hours of American literature. Students who have chosen 137-138 for the period course may substitute any three-hour course approved by their adviser.

Related work: Eighteen semester hours, which may include appropriate courses in history, aesthetics, art, music, languages, literature in translation, philosophy, or courses in composition, dramatics, and speech. Related work must be taken in at least two departments.

Electives: Students may use 12 hours of their free electives for additional work in English and American literature. The maximum credit in such courses may not exceed 36 hours. A total of 54 semester hours' credit in the department is allowed. Students who are looking forward to graduate work should take as many of the period courses as possible. No more than five seniors may be admitted to any course on the 200 level.

FORESTRY

Students without a Bachelor's degree who are preparing for work in forestry as a profession should take the courses outlined under the Academic-Forestry Combination in the section on Requirements for Degrees. However, with the consent of the instructor in charge, certain forestry courses may be elected by students in other curricula provided they have had adequate preparation (see *Bulletin of the School of Forestry*).

Members of the sophomore, junior, and senior classes, whether or not registered in the Academic-Forestry Combination, may elect the following course:

52. PRINCIPLES OF FORESTRY.—Introduction to forestry in the United States; growth of trees and forests; social and economic problems in developing America's primary renewable natural resource; contribution of forests to the national economy. 2 s.h. (w) ASSISTANT PROFESSOR STOLTENBERG

GEOLOGY

PROFESSOR BERRY, CHAIRMAN AND DIRECTOR OF UNDERGRADUATE STUDIES;
ASSISTANT PROFESSOR HERON AND MR. FURBISH

51. GENERAL GEOLOGY.—This course is designed to give a general view of the surface features of the earth, their origin, structure, and materials. Illustrative materials are studied in the laboratory. Excursions are made to neighboring points where the principles of the science are studied in the field. Three one-hour lectures or recitations and one three-hour laboratory. 4 s.h. (E)
ASSISTANT PROFESSOR HERON AND MR. FURBISH

52. GENERAL GEOLOGY.—This course is designed to give some knowledge of the chief events of the earth's history. Excursions will be made to suitable neighboring localities. Three one-hour lectures or recitations and one three-hour laboratory. Prerequisite: Geology 51. 4 s.h. (E)
ASSISTANT PROFESSOR HERON AND MR. FURBISH

55. STRUCTURAL GEOLOGY.—A study of the structural features of the earth's crust. Three one-hour lectures. Prerequisite: Geology 51, 52. 3 s.h. (E)
ASSISTANT PROFESSOR HERON

58. GEOMORPHOLOGY.—A detailed study of the process at work on the land surface and the topographic forms produced by them under different climatic conditions. This course includes practice in the interpretation of topographic maps. Three one-hour lectures or recitations and one three-hour laboratory. 4 s.h. (E)
PROFESSOR BERRY

101-102. MINERALOGY.—This course is devoted to a study of the fundamentals of crystallography and the crystal groups, using crystal models and crystallized minerals. Followed by the systematic study of about 175 important minerals. Determinative work includes exercises on sight recognition, identification by blow-pipe, and other physical and chemical tests. Excursions will be made to neighboring mineral localities. Three two-hour periods. Prerequisite: Chemistry 1-2 (can be taken concurrently). 8 s.h. (E)
PROFESSOR BERRY

151. ECONOMIC GEOLOGY.—Study of world distribution, geologic occurrence, and uses of important mineral deposits. Three one-hour lectures or recitations and one three-hour laboratory. Prerequisite: Geology 101-102. 4 s.h. (E)
PROFESSOR BERRY

152. **INTRODUCTORY PALEONTOLOGY.**—Systematic study of invertebrate paleontology, dealing mainly with generic characters of the fossil invertebrates and their use in identifying and correlating geologic formations. Three one-hour lectures or recitations and one three-hour laboratory. Prerequisites: Geology 51, 52, and Zoology 2. 4 s.h. (E) PROFESSOR BERRY

164. **INTRODUCTION TO GEOLOGIC MAPPING.**—An introduction to the fundamental principles and techniques used in geologic mapping, including applicable methods of surveying, the use of aerial photographs, the interpretation of geologic maps, and the solution of problems in geologic relationships. Field excursions will be made when possible. Two hours of lecture and three hours of laboratory each week. Prerequisites: Geology 51, 52, 55, 151. 3 s.h. (E)

ASSISTANT PROFESSOR HERON

DEPARTMENTAL MAJOR

Prerequisites: Chemistry 1-2; Zoology 2, Geology 51, 52.

Major Requirements: 1. Number of hours needed, 30 s.h. 2. Required courses, Geology 55, 101-102, 151, 152, 164. 3. Recommended courses, Geology 58.

Related Work: 1. Number of hours needed for A.B., 12 s.h.; for B.S., 18 s.h. 2. Required courses, 1 year Mathematics. 3. Departments in which related work is usually taken, Chemistry, Economics 115-116, Mathematics, Physics, Sociology 93, Zoology, and General Engineering.

GERMANIC LANGUAGES AND LITERATURE

PROFESSOR VOLLMER, CHAIRMAN; ASSOCIATE PROFESSOR MAXWELL, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR WILSON, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSOR SHEARS AND MR. YATES

All courses except Elementary and Intermediate German may be taken for one semester only, when circumstances make it advisable.

1-2. **ELEMENTARY GERMAN.**—6 s.h. (E & W)

ASSOCIATE PROFESSOR MAXWELL AND STAFF

3-4. **INTERMEDIATE GERMAN.**—6 s.h. (E & W)

ASSOCIATE PROFESSOR WILSON AND STAFF

51, 52. **INTRODUCTION TO GERMAN LITERATURE.**—A third year course. Both literary and linguistic factors are combined with practice in the spoken language. 6 s.h. (W)

PROFESSOR SHEARS AND STAFF

For courses in the 100 and 200 group which will be offered in 1955-1956, please consult list furnished by Dean's office before registration. The only prerequisite for 100 group courses is German 3-4.

107, 108. **SCIENTIFIC GERMAN.**—The German language as used in the various contemporary sciences. 6 s.h. (W)

ASSOCIATE PROFESSORS MAXWELL AND WILSON

109, 110. **GERMAN PROSE FICTION.**—Origin and development of the German novel with special emphasis on the nineteenth century. 6 s.h.

ASSOCIATE PROFESSOR WILSON

115, 116. **GERMAN DRAMA OF THE NINETEENTH CENTURY.**—A study of leading dramatists from Kleist to Hauptmann. 6 s.h.

ASSOCIATE PROFESSOR WILSON

117, 118. **GERMAN CONVERSATION.**—A course in writing and speaking German for properly qualified students. 6 s.h.

PROFESSOR VOLLMER; ASSOCIATE PROFESSOR MAXWELL AND PROFESSOR SHEARS

125, 126. **CONTEMPORARY GERMAN LITERATURE.**—A study of representative works of the twentieth century. 6 s.h.

PROFESSOR SHEARS

127, 128. **SURVEY OF MODERN GERMAN LITERATURE.**—Excerpts from novels, poems and short stories illustrating the development of modern German literature are read. 6 s.h.

PROFESSOR VOLLMER

131, 132. **INTRODUCTION TO GOETHE.**—The reading of his early novels and epics and works pertaining to his life. 6 s.h.

ASSOCIATE PROFESSOR MAXWELL

203, 204. EIGHTEENTH CENTURY.—Eighteenth-century German literature in its relation to contemporary European philosophy. 6 s.h. (w) PROFESSOR VOLLMER

207, 208. GERMAN ROMANTICISM.—The course covers the entire field of German romanticism from 1800 to 1850. 6 s.h. (w) PROFESSOR VOLLMER

209, 210. KLEIST, GRILLPARZER, AND HEBBEL.—The dramatic development in Germany after Schiller. 6 s.h. (w)

211, 212. HEINRICH HEINE AND HIS TIME.—Heine's life and thought, and the contemporary European culture. 6 s.h. (w) PROFESSOR VOLLMER

213, 214. LITERATURE OF THE EMPIRE, 1871-1914.—A study of the literature of this period with emphasis on a few leading writers. 6 s.h. (w) PROFESSOR SHEARS

DEPARTMENTAL MAJOR

1. *Prerequisites*: German 1-2 and 3-4.

2. *Major Requirements*: Twenty-four semester hours in the German Department. Twelve of these must be selected from the 200 courses. The remaining twelve may be selected from German 51-52 and any courses in the 100 group except 119-120.

3. *Related Work*: Eighteen semester hours, chosen from the Humanities with the approval of the German Department.

GOVERNMENT

See courses listed under Political Science.

GREEK

ASSOCIATE PROFESSOR TRUESDALE, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR ROSE, SUPERVISOR OF FRESHMAN INSTRUCTION; ASSOCIATE PROFESSOR WAY

Courses 15, 121, 122, 131, 141, 142 are entirely in English and require no knowledge of the Greek language. The purpose in offering them is to give a wider circle of students some conception of the debt which modern civilization owes to the Greeks.

1-2. COURSE FOR BEGINNERS.—Open to all students. 6 s.h. (w)

ASSOCIATE PROFESSOR TRUESDALE

15. MYTHOLOGY.—A study of Greek mythology and the use made of it in art and English literature. No knowledge of the Greek language is required. Open to freshmen as an elective in either semester. 3 s.h. (w & e)

ASSOCIATE PROFESSORS TRUESDALE AND WAY

53-54. XENOPHON.—*Anabasis*, Books I-IV. Open to students who have completed course 1-2. 6 s.h. (w)

ASSOCIATE PROFESSOR ROSE

105-106. HOMER.—*Iliad*, Books I-III. PLATO.—*Apology* and *Crito*. Open to students who have completed courses 1-2 and 53-54 or their equivalents. 6 s.h. (w)

ASSOCIATE PROFESSOR TRUESDALE

107-108. EURIPIDES.—*Medea*. SOPHOCLES.—*Oedipus Tyrannus*. ARISTOPHANES.—*Clouds*. Open to students who have completed the required preliminary work. 6 s.h. (w)

ASSOCIATE PROFESSOR WAY

115-116. SIGHT READING IN GREEK.—Three hours per week through the year. 4 s.h. (w)

ASSOCIATE PROFESSOR TRUESDALE

117-118. GREEK PROSE COMPOSITION.—The character of this course is determined by the needs of the students enrolled. 3 s.h. (w) ASSOCIATE PROFESSOR ROSE

121, 122. GREEK LITERATURE IN ENGLISH TRANSLATION.—The purpose of this course is to give a general survey of the life and civilization of the Greeks,

especially to those who have never studied the language but wish to become acquainted with some of the choicest portions of the literature by the use of translations. It is, however, open as an elective to all juniors and seniors, whether they know Greek or not. First, the *Iliad* and the *Odyssey* are read in translation and illustrated with stereopticon views of the excavations and discoveries at Troy and other cities of the Aegean age; then, many of the extant plays of the three great tragic poets are studied in English translation. 6 s.h. (W & E)

ASSOCIATE PROFESSORS ROSE AND TRUESDALE

Students may elect course 122, whether they have taken course 121 or not.

131. HISTORY OF GREECE.—The history of the Greek world from the Late Bronze Age to the Macedonian conquest. Open to seniors, juniors, and (by arrangement) sophomores. No knowledge of Greek is required. 3 s.h. (E)

ASSOCIATE PROFESSOR WAY

141, 142. GREEK ART.—(May be treated as two semester-courses.) Open to seniors, juniors, and sophomores. A comprehensive survey of the development of Greek architecture and Greek sculpture in all periods. Course 141 is opened by a preliminary account of Egyptian, Mesopotamian, and Aegean artistic backgrounds. Course 142 is devoted chiefly to Greek art of the greatest period with the main emphasis on sculpture, and may be elected independently of course 141. All lectures are fully illustrated by slides. No knowledge of Greek is required. 6 s.h. (E)

ASSOCIATE PROFESSOR WAY

201-202. GREEK TRAGEDY.—6 s.h. (W)

ASSOCIATE PROFESSOR TRUESDALE

203-204. HOMER.—*Odyssey*. PINDAR AND BACCHYLIDES. 6 s.h. (W)

ASSOCIATE PROFESSOR TRUESDALE

207-208. GREEK ORATORS.—Selected speeches. 6 s.h. (W)

ASSOCIATE PROFESSOR WAY

209-210. PLATO.—*Symposium*, *Protagoras*, and parts of the *Republic*. 6 s.h. (W)

ASSOCIATE PROFESSOR WAY

Only one of the year-courses for seniors and graduates (201-210), listed above, is offered each year.

243. ATHENIAN TOPOGRAPHY.—The topography and monuments of ancient Athens. 3 s.h. (W)

ASSOCIATE PROFESSOR WAY

244. GREEK EPIGRAPHY.—Lectures on the history of the alphabet and the development of the local Greek alphabets, followed by extensive reading of inscriptional texts in facsimile. 3 s.h. (W)

ASSOCIATE PROFESSOR WAY

245. GREEK DIALECTS.—A linguistic study of transliterated inscriptions illustrative of the major Greek dialects. The interrelations of the dialectal forms are examined with reference, where possible, to their origin in protohnic Greek. 3 s.h. (W)

ASSOCIATE PROFESSOR WAY

246. GREEK HISTORICAL INSCRIPTIONS.—The more valuable historical inscriptions are read in chronological order and interpreted in their general bearing upon the course of Greek history. 3 s.h. (W)

ASSOCIATE PROFESSOR WAY

247-248. GREEK ARCHAEOLOGY.—Advanced course in the general field for seniors and graduates, comprising architecture, sculpture, vases, and the minor arts. 6 s.h. (W)

ASSOCIATE PROFESSOR WAY

Of the courses numbered from 243 to 248 only two semester-courses are offered each year.

DEPARTMENTAL MAJOR

Prerequisite: Greek 1-2.

Major Requirements: A candidate for a major in Greek must complete 24 semester hours, including the following courses: Greek 53-54, 105-106, 107-108, 117-118, and 131.

Related Work: Eighteen semester hours selected from at least two other depart-

ments subject to the approval of the Greek Department. Appropriate courses are chosen usually in Latin, Philosophy, Art, and English.

Graduates of Duke University may attend the American School of Classical Studies at Athens, Greece, without charge for tuition and are eligible to compete for the fellowships that are offered annually by the School. These consist of two fellowships in Greek archaeology and one in the language, literature, and history of ancient Greece, each with a stipend of \$2,000. They are awarded mainly on the basis of examinations held in the beginning of February of each year.

HEALTH AND PHYSICAL EDUCATION

TRINITY COLLEGE AND THE COLLEGE OF ENGINEERING

MR. CAMERON, DIRECTOR; PROFESSOR AYCOCK, DIRECTOR OF UNDERGRADUATE STUDIES AND SUPERVISOR OF FRESHMAN INSTRUCTION; ASSISTANT PROFESSORS BLY, BRADLEY, COX, FALCONE, HARRISON, MONTFORT, AND PERSONS;
MESSRS. DRAGO, AND SORESENSEN

REQUIRED PHYSICAL EDUCATION FOR MEN

A student must complete four semesters of physical education in order to fulfill graduation requirements.

All students are given a medical and physical examination before registration. Students who have physical handicaps must register in Corrective Physical Education. Students assigned to these classes will take work suited to their particular needs and capacities.

Students without defects will register in Physical Education 1 and 2 in their freshman year. The activities are selected from the following: Apparatus, combative games (fundamentals of basketball, soccer, volleyball), swimming and tumbling. Swimming is required each semester of freshman year.

After a student has completed Physical Education 1 and 2, he may complete his physical education requirement by electing and satisfactorily completing two courses from the following individual and team sports: 51. Apparatus-Tumbling; 52. Badminton; 53. Basketball-Handball; 54. Boxing-Wrestling; 55. Lacrosse-Soccer; 56. Swimming, advanced; 57. Tennis-Volleyball.

For information concerning gymnasium uniforms see page 190.

ELECTIVES IN PHYSICAL EDUCATION

The courses listed below are arranged to meet the increasing demand for teachers who are qualified to coach and teach Physical Education. They are open for credit only to students in the High School Teaching Program. These students may elect 15 semester hours from courses in this group. Six semester hours may be elected from the courses listed under Special Methods in Physical Education and 9 semester hours may be elected from the courses listed under Theory and Practice in Physical Education. The courses should be selected with the advice of the Director of Undergraduate Studies in order to meet the needs of the individual.

SPECIAL METHODS IN PHYSICAL EDUCATION

163. ATHLETIC COACHING IN SECONDARY SCHOOLS.—Theory and practice in the fundamentals of coaching baseball and track. Prerequisites: courses 1 and 2. Open to juniors and seniors. Sophomores by permission only. 3 s.h. (w)
MESSRS. CHAMBERS AND PARKER

164. ATHLETIC COACHING IN SECONDARY SCHOOLS.—Theory and practice in the fundamentals of coaching football and basketball. Prerequisites: courses 1 and 2. Open to juniors and seniors. Sophomores by permission only. 3 s.h. (w)
MR. CAMERON AND STAFF

THEORY AND PRACTICE IN PHYSICAL EDUCATION

65. HISTORY AND PRINCIPLES OF PHYSICAL EDUCATION.—A study of the objectives and principles upon which physical education is based. The history of physical education is studied in order to show the changes in objectives, principles, and methods and as an aid in the interpretation of trends. Open to sophomores, juniors, and seniors. 3 s.h. (w)
PROFESSOR AYCOCK

172. RECREATIONAL LEADERSHIP.—Combative contests, games, mass athletics, supervision of community recreation. Open to juniors and seniors. Sophomores by permission only. 3 s.h. (w) ASSISTANT PROFESSOR HARRISON

182. THE ADMINISTRATION OF HEALTH AND PHYSICAL EDUCATION IN SECONDARY SCHOOLS.—Presents the everyday problems that arise in the experience of the teacher of health and physical education. Open to juniors and seniors. 3 s.h. (w) ASSISTANT PROFESSOR HARRISON

190. PROTECTIVE PRACTICES IN PHYSICAL EDUCATION.—A study of safety measures including training and first aid. Open to juniors and seniors. 3 s.h. (w) MR. CHAMBERS AND ASSISTANT PROFESSOR MONTFORT

HEALTH EDUCATION

132. SCHOOL HEALTH PROBLEMS.—A course designed (a) to familiarize the teacher with school health problems such as physical screening, communicable disease prevention and control, healthful school environment; (b) to present methods and materials for health teaching in elementary and secondary schools. 3 s.h. (w) PROFESSOR AYCOCK

WOMAN'S COLLEGE

PROFESSOR GROUT, CHAIRMAN AND DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR EDDY, SUPERVISOR OF FRESHMAN INSTRUCTION IN PHYSICAL EDUCATION; ASSISTANT PROFESSOR UHRHANE, SUPERVISOR OF FRESHMAN INSTRUCTION IN HEALTH EDUCATION; ASSOCIATE PROFESSORS BOOKHOUT AND LEWIS; ASSISTANT PROFESSOR HOLTON; MRS. KEPPEL, MISS SPANGLER, MRS. STOCKTON, MRS. TEAGUE AND MISS WOODYARD

A student must complete four semester hours of physical education in order to fulfill graduation requirements. Ordinarily work must be completed by the end of the sophomore year. Classes meet three times a week or the equivalent thereof.

Each semester is divided into two halves. In general, indoor activities are taught during the two winter half-semester and outdoor activities in the fall and spring.

Every student must take one course (half-semester) in dance and one in swimming if she is unable to pass the swimming test. The remaining work necessary to complete the requirement may be elected from the activities listed in this section.

All students are given a physical and medical examination upon entering and at intervals throughout their college course. Classes in individual physical education and light sports are arranged for those who should not take the more active work.

For information concerning gymnasium costumes see page 190.

SPECIAL FRESHMAN PHYSICAL EDUCATION

At the beginning of the year, after a series of tests has been given, each freshman is registered for the course she most needs, as determined by the test scores. Such courses as motor skills, fundamentals of rhythm, beginning swimming and posture are offered for those who need to improve their skills in these areas. Students whose test scores are satisfactory will enroll in classes with the sophomores.

For freshmen, the winter half of the first semester consists of body mechanics twice a week and social hygiene once a week.

PHYSICAL EDUCATION ACTIVITIES

Individual and dual sports: Archery, badminton, bowling, diving, fencing, golf, life saving, light sports, riding, swimming, tennis, first aid, instructors' life saving and water safety.

Team sports: Basketball, hockey, softball, volleyball.

Rhythmic Activities: Ballroom dance, folk dance, fundamental rhythms, modern dance, square dance, tap dance.

Developmental Activities: Body mechanics, individual physical education, motor skills, posture.

PHYSICAL EDUCATION THEORY

Students preparing to teach physical education and health on a full-time or part-time basis may receive academic credit for all courses listed below. Course 107 is also open to students preparing for social group work and religious education.

Students in the Elementary School Teaching Program must take Physical Education 102 and Health Education 112.

All students may receive credit for Physical Education 105-106, 114, and Health Education 41 and 62.

91. FIRST AID AND SAFETY IN PHYSICAL EDUCATION.—A study of measures which must be taken in the organization and teaching of physical education to insure maximum safety. The Standard Red Cross First Aid Course will be included. 2 s.h. (E) ASSOCIATE PROFESSOR BOOKHOUT

101. HISTORY AND PRINCIPLES OF PHYSICAL EDUCATION.—An historical survey of physical education stressing the relationship between the types of activity developed and the social and political ideals of different nations and periods. A study of the principles upon which physical education is based. Analysis of successful teaching in physical education. 2 s.h. (E) PROFESSOR GROUT

102. THE TEACHING OF PHYSICAL EDUCATION IN ELEMENTARY SCHOOLS.—A study of methods and materials used in teaching physical education to children; includes discussion on the theory of physical education, and practice in teaching elementary school activities. Required of students in the elementary school teaching program. 3 s.h. (E) ASSOCIATE PROFESSOR LEWIS

103. GAMES AND RHYTHMS FOR CHILDREN—Required of students preparing for full-time teaching of physical education. 2 s.h. (E)
[Offered every other year alternating with P.E. 107.] ASSOCIATE PROFESSOR LEWIS

105-106. METHODS AND MATERIALS IN RECREATION.—A course intended to familiarize students with recreation activities and methods of organizing groups in these activities. Laboratory work includes practical leadership experience with a recreational club or group in a city organization. General fields covered are: Social Activities, Music Activities, Folk and Square Dancing, Games and Sports, Arts and Crafts, Drama Activities. Open to juniors and seniors without prerequisite. A year course meeting five periods per week throughout the year. Students who have had 102 or 103 may take 106 without 105. 6 s.h. (E)
ASSISTANT PROFESSOR HOLTON

107. THE TEACHING OF RHYTHMIC ACTIVITIES.—Basic theory and practice in the methods of teaching various types of dance activities. 2 s.h. (E)
[Offered every other year alternating with P.E. 103.] MRS. STOCKTON

113. MAMMALIAN ANATOMY.—A study of all organ systems with special emphasis on osteology, arthrology and myology. The cat serves as laboratory animal, but constant application is made to man. Prerequisite: Zoology 1 and 2. 4 s.h. (E)
ASSOCIATE PROFESSOR BOOKHOUT

114. KINESIOLOGY.—A study of muscle function. Analysis of fundamental movements with emphasis on the development of normal posture and efficient body movement. Required of students taking the major in physical education. Prerequisites: Zoology 1 and 2, and P.E. 113 or Zoology 53. 3 s.h. (E) (Not open to students who have had P.E. 116.) ASSOCIATE PROFESSOR BOOKHOUT

116. KINESIOLOGY.—A study of muscle function. Analysis of human motion as a basis for therapeutic exercise. Prerequisite: Human Anatomy. 3 s.h. (w)
(Not open to students who have had P.E. 114.) ASSOCIATE PROFESSOR BOOKHOUT

117. BODY MECHANICS AND INDIVIDUAL PHYSICAL EDUCATION.—A study of the fundamentals of body movement and teaching methods for courses in body mechanics. An analysis of faulty postures for which individual physical education procedures are indicated. 3 s.h. (E) ASSOCIATE PROFESSOR BOOKHOUT

119. ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION.—Curriculum building in physical education. A study of facilities including plans and equipment for gymnasias and playgrounds. Administrative problems of the high-school teacher and public school supervisor. 2 s.h. (E) PROFESSOR GROUT

181-182. METHODS AND MATERIALS IN PHYSICAL EDUCATION.—A course in the theory and practice of teaching and officiating in games and sports. Laboratory hours arranged to provide practice on the field and in the gymnasium. 6 s.h. (E) ASSOCIATE PROFESSOR LEWIS AND STAFF

185. ADVANCED METHODS AND MATERIALS IN PHYSICAL EDUCATION.—A continuation of 181-182. Required of seniors preparing for full-time teaching in physical education. 2 s.h. (E) ASSOCIATE PROFESSOR LEWIS AND STAFF

HEALTH EDUCATION

41. PERSONAL HEALTH.—A presentation of basic health information appropriate to the college age group. Emphasis is placed on the individual's responsibilities and potential contributions toward personal and family health. Either semester. 3 s.h. (E) ASSISTANT PROFESSOR UHRHANE

62. COMMUNITY HEALTH PROBLEMS.—This course includes problems of health in community living such as environmental health hazards and their control, health problems specific to certain groups, and the place and contribution of official and non-official public health agencies. Emphasis is placed on the responsibility of each community member to recognize problems and to work together toward the goal of a mentally, physically and socially healthful community. 3 s.h. (E) ASSISTANT PROFESSOR UHRHANE

112. SCHOOL HEALTH.—This course is designed to meet the needs of the classroom teacher. It deals with the organization and administration of the school health program; with modern principles of education as applied to health education; with basic health problems confronting the schools; and with methods and materials for teaching health education. Primarily designed for students preparing to teach in elementary schools and for physical education majors. Either semester. 3 s.h. (E) ASSISTANT PROFESSOR UHRHANE

REQUIREMENTS FOR TEACHING HEALTH AND PHYSICAL EDUCATION IN PUBLIC SCHOOLS

The following requirements have been set up for students in the Teaching Program who wish to qualify as full-time or part-time teachers of Health and Physical Education. These requirements meet the standards of the North Carolina Department of Public Instruction for certification in Health and Physical Education and of most of the other states represented in the student body. Students preparing to teach in any state are advised to consult the department about specific requirements.

Prerequisites: Physical Education 91 and 101. Zoology 1-2.

Major Requirements: 23 s.h. including Physical Education 103, 107, 114, 117, 119, 181-182, 185, and Health Education 112.

Related Work: 17 to 19 s.h. Of these hours 8 must be in anatomy and physiology (P.E. 113, Mammalian Anatomy and Zoology 151, Principles of Physiology). Of the remaining hours work done in Department of Education leading to teacher certification is acceptable. Courses in Chemistry, Zoology, Sociology, Psychology, Art and Music are recommended.

HISTORY

PROFESSOR CARROLL, CHAIRMAN; ASSOCIATE PROFESSOR PARKER, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR FERGUSON, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS CLYDE, CURTISS, HAMILTON, LANNING, MANCHESTER, AND WOODY; ASSOCIATE PROFESSORS NELSON, ROPP, AND WATSON; ASSISTANT PROFESSORS ACOMB, COLTON, DECONDE, HOLLEY, AND STEVENS; DRs. DURDEN, OLIVER, WHITESIDE, AND YOUNG

The undergraduate courses in history are designed to afford (1) an introduction to the study of history by a consideration of the history of the modern world; (2) a more intensive study of general American history; (3) opportunities for more advanced study of phases of American, English, European, Hispanic-American, Russian, and Far Eastern history.

Course 1-2 or 51-52 or E1-2 or an equivalent is a prerequisite for all other courses; course E1-2 is the prescribed course for students in the College of Engineering; courses 91 and 92 are prerequisite for all 100 and 200 courses in United States history. However, seniors with written permission from the instructor may take advanced American history courses without having had 91 and 92. Sophomores who took only one semester of course 1-2 in the freshman year may be admitted to courses 91, 92, and 99, provided they made a grade of B or above on the semester taken. Sophomores must obtain permission of the instructor in order to be admitted to courses numbered above 100; students who are not fully qualified sophomores will not be admitted to these courses. Courses offered for seniors and graduates are limited to twenty-five students; juniors may not elect them without special permission from the Department and the Executive Committee of the Graduate Faculty.

1, 2. HISTORICAL BACKGROUND OF THE WORLD TODAY.—This course is an introduction to the study of modern history with special reference to the issues in the modern world. Topics selected for emphasis are: the contest between liberty and authority in the modern state; changing economic organization and theory—capitalism and the challenges to it; the problems of peace and war among the states; the changing faiths men live and die by. Beginning about 1500 with the rise of the European dynastic states, the story is pursued in the first semester to approximately 1871, and in the second through the two great world wars. The central theme in both semesters is the expansion of the influence of Western Europe throughout the world, with some attention to the rise of the United States as a world power. 6 s.h. (W & E)

Sophomore and juniors are not admitted to this course.

ASSOCIATE PROFESSORS FERGUSON, PARKER, AND ROPP; ASSISTANT PROFESSORS ACOMB AND COLTON; DRs. DURDEN, OLIVER, WHITESIDE, AND YOUNG

E1-2. THE UNITED STATES IN THE WORLD TODAY.—This course is designed for students in the College of Engineering. Topics treated in the first semester are: the rise of national states in Western Europe and other factors attending the discovery and settlement of the New World; the foundation of American institutions; the establishment of the Federal Republic; the frontier, the westward movement, and contemporary international development; the Civil War; the growth of industry and its influence on society; the Spanish-American War and the emergence of the United States as a world power. In the second semester the emphasis is on the growing interdependence of the Western nations in the twentieth century; their influence throughout the world; the participation of the United States in the World Wars and the resultant problems of today. 6 s.h. (W)

ASSISTANT PROFESSOR HOLLEY; DR. DURDEN

51, 52. HISTORICAL BACKGROUND OF THE WORLD TODAY.—An introductory course for sophomores, juniors, and seniors dealing with the topics indicated in the description of course 1-2. 6 s.h. (W & E)

PROFESSOR CURTISS; ASSOCIATE PROFESSOR ROPP; ASSISTANT PROFESSORS ACOMB AND COLTON; DRs. DURDEN, OLIVER, WHITESIDE, AND YOUNG

91. THE DEVELOPMENT OF AMERICAN DEMOCRACY TO 1865.—This course is a study of trends vital to an understanding of the United States today. The main theme is the development of American democracy. Problems of foreign policy, the growth of capitalism, political practices, social behavior, and conflicting ideals are considered in relation to this main theme. 3 s.h. (W & E)

ASSOCIATE PROFESSOR WATSON; ASSISTANT PROFESSORS
DeCONDE, HOLLEY, AND STEVENS

92. THE DEVELOPMENT OF AMERICAN DEMOCRACY, 1865 TO THE PRESENT.—A continuation of History 91 with emphasis upon the emergence of contemporary problems. 3 s.h. (W & E)

ASSOCIATE PROFESSOR WATSON; ASSISTANT PROFESSORS
DeCONDE, HOLLEY, AND STEVENS

Courses 91 and 92 are intended both to serve as continuation courses in the study of history and to afford the student an opportunity to gain the understanding of the past of the United States essential for intelligent citizenship. These courses are prerequisite for all 100 and 200 courses in United States history, but this prerequisite may be waived for seniors by written permission of the instructor.

99. NAVAL HISTORY AND ELEMENTARY STRATEGY.—After a review of earlier periods, attention is given to the rise of sea-power and its importance in more recent times and to naval actions, especially in the two World Wars. This course is not open to students who have had N.S.101. 3 s.h. (W)

ASSOCIATE PROFESSOR ROPP

105, 106. POLITICAL AND CONSTITUTIONAL HISTORY OF ENGLAND.—The origins and evolution of the principal institutions of the English government, related to their setting in a changing society. 6 s.h. (W) PROFESSOR HAMILTON

107, 108. SOCIAL AND CULTURAL HISTORY OF ENGLAND.—A study of English history from the fourteenth century to the present time in an effort to arrive at a synthesis of social and political events and thus provide a background for the study of English literature. Emphasis is placed on the ages of Chaucer, Shakespeare, and Milton; the eighteenth and early nineteenth centuries; the reign of Victoria and the twentieth century. 6 s.h. (E) ASSOCIATE PROFESSOR FERGUSON

Sophomores who made an average grade of B or above on course 1-2 or E1-2 may be admitted to this course.

111, 112. SOCIAL AND INTELLECTUAL HISTORY OF THE U. S.—Evolution of American life and thought to the present; an examination of attitudes and practices in such fields as science, industry, law, learning and religion. Lectures and class discussions of selected readings seek to illuminate the interplay of ideas and social institutions. 6 s.h. (W) ASSISTANT PROFESSOR HOLLEY

113, 114. AMERICA IN THE TWENTIETH CENTURY.—A historical survey of political, economic, and social problems of twentieth-century United States. Emphasis is placed on reform movements from the Muckrakers through the New Deal, the emergence of the United States as a world power, and conflicting ideas and ideologies. 6 s.h. (W) ASSOCIATE PROFESSOR WATSON

115, 116. THE AGE OF ABSOLUTE MONARCHY AND THE FRENCH REVOLUTION.—The study in the first semester deals primarily with the political and social institutions of Western Europe in the seventeenth and eighteenth centuries, including such topics as the absolute monarchy in theory and practice, the peasants, the nobles, commercial and industrial classes, the Church. The study in the second semester includes the old regime in France, the French Revolution, and Napoleonic institutions in Western Europe. 6 s.h. (E) ASSISTANT PROFESSOR ACOMB

[Not offered in 1955-56]

119, 120. SOCIAL MOVEMENTS AND SOCIAL THOUGHT IN MODERN EUROPEAN HISTORY.—A survey of movements for social reform and change from about 1750 to the present. Emphasis is placed on the effects of industrialism, the rise of trade unions, the emergence of working class political parties, and the influence of revolutionary and reformist theories. 6 s.h. (W)

ASSISTANT PROFESSOR COLTON

121, 122. THE FOREIGN RELATIONS OF THE UNITED STATES.—This course is designed to acquaint the student with the historical development of ideas and movements that have shaped American attitudes toward the outside world and to provide an historical introduction to the formal conduct of diplomacy. 6 s.h. (w)

ASSISTANT PROFESSOR DeCONDE

127. HISTORY OF LATIN AMERICA THROUGH THE FORMATION OF THE NATIONAL GOVERNMENTS.—3 s.h. (w)

PROFESSOR LANNING

128. INTER-AMERICAN AFFAIRS.—This course treats the relations of the Latin-American states with each other and with the United States with the design of explaining the current significance of Latin America. Chief emphasis is placed upon social problems and movements common to all the republics and upon the role of the United States in Latin-American affairs, including such topics as American intervention; contributions of the United States to Latin-American life in such matters as public health; Pan-Americanism; Pan-Hispanism; foreign penetration and ideologies; the cultural and commercial aspects of the Good Neighbor Policy; Latin-American states in the World War. 3 s.h. (w)

PROFESSOR LANNING

133, 134. THE AGE OF REVOLUTIONS, 1763-1830.—The great revolutions of the closing decades of the eighteenth century and the early decades of the nineteenth. While emphasis is placed on the French Revolution and Napoleon, attention is also given to the revolutions in the New World and to the underlying intellectual movement, the Enlightenment. 6 s.h. (w)

ASSISTANT PROFESSOR ACOMB

135, 136.—EUROPE IN THE TWENTIETH CENTURY.—The work in the first semester deals with the period before 1920, including such topics as international relations at the beginning of the twentieth century, the rise of German naval power, the Triple Alliance and the Triple Entente, the economic interdependence of the world, the Turkish Revolution, the Turco-Italian War and the Balkan wars, the first World War, and its immediate aftermath. In the second semester such topics are treated as the rise of totalitarian states, the disruption of world trade, and the second World War. 6 s.h. (w)

PROFESSOR CARROLL

141, 142. THE FAR EAST FROM COMMODORE PERRY TO CHIANG KAI-SHEK.—Historical interpretations of the role of Eastern Asia in the recent World War with attention to such topics as Western imperialism in China and Japan in the nineteenth century; the rise of Japan as a military and industrial power; the emergence of militant Chinese nationalism; the fusion of the Far Eastern and the European wars into a world conflict; the rise of Chinese communism. 6 s.h. (w)

[Not offered in 1955-56]

PROFESSOR CLYDE

153, 154. THE HISTORY OF THE SOUTH.—A study, beginning in the Colonial period, of the development of the Southern part of the United States with particular attention to its distinctive characteristics and institutions and to their influence in shaping Southern attitudes toward major questions of national policy. 6 s.h. (w)

PROFESSOR WOODY

161, 162. RUSSIA FROM IVAN THE TERRIBLE TO PRESENT TIMES.—Topics treated include the rise of the Russian state and its relations with Poland and Turkey; the agrarian problem and the rise of industry; the Russian Revolution; the political, agricultural, and industrial policies of the Soviet Union; the role of the U.S.S.R. in World War II; and its postwar policies. 6 s.h. (w)

PROFESSOR CURTISS

167, 168. THE BACKGROUND OF MODERN EUROPEAN CIVILIZATION.—The course deals primarily with the intellectual-cultural history of the peoples of Europe and adjacent areas from the period of the earliest written records to the formation of the European states-system (c. 1648). The work aims to develop critical appreciation and maturity of judgment in historical interpretation through the use of original sources. 6 s.h. (E)

ASSOCIATE PROFESSOR NELSON

FOR SENIORS AND GRADUATES

Students may receive credit for either semester of a hyphenated course at the 200-level without taking the other semester if they obtain written permission from the instructor and either the Director of Undergraduate or the Director of Graduate Studies

HISTORY 201-202. SENIOR SEMINAR IN HISTORY.—A course designed to introduce qualified students to advanced methods of historical research and writing and to the appraisal of critical historical issues. Prerequisites: History 1-2 (or 51-52), 91-92, and the consent of the instructor. Open only to seniors. This course, when taken by a history major, would be in addition to the 6 semester hours required in 200-level courses of the History Department. 6 s.h. (w)

ASSOCIATE PROFESSOR PARKER

203-204. THE UNITED STATES, 1850-1900.—The rise of sectionalism, secession, war-time problems of the Union and Confederacy, political and economic adjustments of Reconstruction, the status of the Negro, the New South, problems of capital and labor, the agrarian revolt, political parties and reform, the Spanish-American War. 6 s.h. (w)

PROFESSOR WOODY

205-206. THE UNITED STATES IN THE TWENTIETH CENTURY.—The emergence of the United States as a major power: attention is focused on domestic developments and conflicting theories of expansion of federal power. Emphasis in the first semester is on the Progressive era and the first World War; the second semester is devoted to the twenties and to the Franklin Roosevelt administration. 6 s.h. (w)

ASSOCIATE PROFESSOR WATSON

Not open to students who have had 113-114.

209-210. CONSTITUTIONAL HISTORY OF THE UNITED STATES, 1760 TO THE PRESENT.—A study of the basic problems in forming the Constitution; of its development through the major crises in the history of the United States; of the effects of changing social, cultural, economic, and political conditions on the Constitution. 6 s.h. (w)

ASSISTANT PROFESSOR STEVENS

215-216. THE FOREIGN POLICY AND DIPLOMACY OF THE UNITED STATES.—The work in the first semester, covering the period 1775-1877, deals with such topics as the origin and development of basic foreign policies; isolation from Europe; paramount interests in Latin America, including the Monroe Doctrine; international co-operation in the Far East. The work in the second semester, covering the period since 1877, deals with topics such as the rise of the new "manifest destiny"; beginnings of American imperialism in Latin America and the Far East; the failure of traditional neutrality in the first World War; postwar conflicts between isolation and collective security; involvement in the second World War. 6 s.h. (w)

PROFESSOR CLYDE

[Not offered in 1955-56]

217, 218. EUROPE SINCE 1870.—International relations since the Franco-German War is the chief subject of study in this course; special emphasis is placed upon the underlying economic and political influences. 6 s.h. (w)

PROFESSOR CARROLL

221-222. THE AGE OF THE RENAISSANCE.—The decline of characteristic features of medieval civilization and the rise of modern European institutions with particular attention to intellectual movements from Dante to Erasmus. 6 s.h. (E)

ASSOCIATE PROFESSOR NELSON

225-226. THE AGE OF THE REFORMATION.—A survey of European civilization from 1500 through the Peace of Westphalia. 6 s.h. (E)

[Not offered in 1955-56]

ASSOCIATE PROFESSOR NELSON

227, 228. EUROPE IN THE NINETEENTH CENTURY.—A study, beginning with the career of Napoleon Bonaparte, of the forces and personalities influential in the nineteenth century. Emphasis in the first semester is on the problems of the biographer; in the second, on those of a student of national communities. 6 s.h. (w)

ASSOCIATE PROFESSOR PARKER

231-232. THE HISPANIC COLONIES AND REPUBLICS IN AMERICA.—The development of the Iberian states as colonizing powers, the conquest of America, the Spanish treatment of the Indian, the contest between Spain and other European nations over America, the independence movement, the struggle for stable government, the rise of liberalism with special emphasis upon Mexico from the Revolution of 1910 to the present, and basic inter-American developments. 6 s.h. (w)

PROFESSOR LANNING

233-234. THE INSTITUTIONAL, CULTURAL, AND SOCIAL HISTORY OF HISPANIC AMERICA.—The first semester of this course deals with subject races, the development of mixed breeds, the governmental system, the Church and the Inquisition, and Spanish culture with emphasis upon university subjects. In the second semester the work deals with the political ideas of the wars of independence, revolution and dictatorship, the rise of public education, public health, land reform, and proletarian movements. 6 s.h. (w) PROFESSOR LANNING

[Not offered in 1955-56]

235, 236. EUROPEAN EXPANSION OVERSEAS (1415-1898). A course dealing primarily with the processes by which European institutions were carried overseas and modified in a new environment. In the first semester the emphasis is on Portuguese, Dutch, French, and English experience in the Far East and the Americas to 1763. In the second semester, attention is paid to the emergence of independent centers of European culture, as in Brazil, and to the revivals of mercantile imperialism of the new German, French, Italian and British empires of the nineteenth century. 6 s.h. (w) PROFESSOR MANCHESTER

241-242. THE FAR EAST.—The history of the Western impact on Eastern Asia in the nineteenth and twentieth centuries. Emphasis is placed on such matters as commercial and colonial expansion, the opening of China and Japan, the development by the Western Powers and Japan of colonial, imperialistic, and nationalistic interests, and the rise of Communist power in Asia. 6 s.h. (w) PROFESSOR CLYDE

243-244. THE UNITED STATES AND THE FAR EAST.—An historical analysis of American relations with the peoples of Eastern Asia during the nineteenth and twentieth centuries. 6 s.h. (w) PROFESSOR CLYDE

[Not offered in 1955-56]

245-246. WAR IN THE MODERN WORLD.—This course is concerned with the relations between warfare and modern political, economic, and social conditions. Special attention is given to the development of British and American military methods and to the events of the American Civil War and the two World Wars. The work in the first semester deals with Clausewitz's theories of warfare and the period from the introduction of gunpowder to 1871; in the second semester there is a more detailed analysis of recent land, sea, and air warfare. 6 s.h. (w)

ASSOCIATE PROFESSOR ROPP

261-262. RUSSIA IN THE TWENTIETH CENTURY.—A study of the background of the Revolution of 1917 followed by an analysis of the history and policies of the Soviet state. 6 s.h. (w) PROFESSOR CURTISS

263-264. AMERICAN COLONIAL HISTORY AND THE REVOLUTION, 1606-1783.—The growth of institutions and economic life in the English colonies and the American Revolution. 6 s.h. (w) PROFESSOR WOODY

267. THE TRANSITION FROM MEDIEVAL TO MODERN ENGLAND.—A study of the changes in English society and ideas from the time of Edward III to that of Elizabeth. 3 s.h. (E) ASSOCIATE PROFESSOR FERGUSON

Not open to students who have had 107-108.

268. ENGLAND FROM ELIZABETH TO ANNE.—Political, social, and intellectual problems from the late sixteenth to the early eighteenth centuries. 3 s.h. (E) ASSOCIATE PROFESSOR FERGUSON

Not open to students who have had 107-108.

269. BRITISH HISTORY FROM 1714 TO 1867.—The interrelationship of the leadership of such men as Walpole, Chatham, Pitt, and Peel with war, revolution, and social institutions; the rise of the cabinet system; the Industrial Revolution; imperial changes; and reform. 3 s.h. (w) PROFESSOR HAMILTON

Not open to students who have had 105-106.

270. GREAT BRITAIN AND THE COMMONWEALTH OF NATIONS, 1867 TO THE PRESENT.—Selected illustrations of such developments as the growth of party government and the rise of Labour; the problems of a declining economy, of recruitment of rulers under mass suffrage, and of diplomacy in the wars of the Twentieth Century; the Victorian empire; and the evolution of the dominions into a Commonwealth containing Asiatic peoples. 3 s.h. (w) PROFESSOR HAMILTON
Not open to students who have had 105-106.

DEPARTMENTAL MAJOR

Prerequisites: The Introductory Course in History (1-2 or 51-52).

Major Requirements: Students desiring to take a major in history are required to elect 24 semester hours in the Department, including six semester hours in the senior year from courses in the 200 group. Students desiring to take the more advanced courses in American history should elect courses 91 and 92 in the sophomore or junior year.

COURSES APPROVED FOR RELATED WORK IN HISTORY

The number of courses refer to the description in the 1954-55 catalogue.

Aesthetics

History of Art

History of Music

Economics, but *not* the courses listed under business administration except those in economic geography

Education, 84, 225, 253

English and American Literature, but *not* composition, speech, and drama

German, Greek, Latin, Russian, and the Romance Languages: the literature courses numbered 100 or above that are not primarily conversation or composition courses

Greek 131

Latin 131-132

Philosophy, except 48

Political Science

Psychology, 206 only

Religion courses approved to satisfy the requirement in religion for graduation

Sociology 91, 92, 101, 243, 246 and courses in groups I, II, IV, V.

LATIN AND ROMAN STUDIES

PROFESSOR ROGERS, CHAIRMAN AND DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE

PROFESSOR ROSE, SUPERVISOR OF FRESHMAN INSTRUCTION; MR. MAHONEY

Students who wish by study in English to make acquaintance with Roman antiquity from either a literary or an historical approach are afforded that opportunity through the courses in translated Latin Literature (111, 112), and Roman History (131, 132).

1-2. COURSE FOR BEGINNERS.—Forms, vocabulary, pronunciation and syntax are emphasized the first semester. They are followed by the reading and translating of Caesar's *Gallie War* the second semester. An effort is made to promote rapid development of ability to read easy Latin with satisfaction. 6 s.h. (w)

MR. MAHONEY

3. CICERO'S ORATIONS.—Four orations including the *Manilian Law* and *Archias* are read, and attention is paid to prose style. Prerequisite: Latin 1-2, or equivalent. 3 s.h. (ε)

MR. MAHONEY

4. VERGIL'S *AENEID*.—Selections from Books I-VI, to the amount of four books or more, will be read and translated, due attention being paid to prosody. 3 s.h. (ε)

MR. MAHONEY

51. LATIN PROSE.—Selections from prose authors or Cicero's *De Senectute* and *De Amicitia*, or selected books of Livy's history, with special emphasis on developing competence in reading Latin. 3 s.h. (ε)

THE STAFF

52. **LATIN POETRY.**—Selections from the greatest Latin poets, especially Horace's *Odes*. 3 s.h. (E) THE STAFF

57. **SIGHT READING IN CLASSICAL LATIN.**—One period of an hour per week devoted to practice in the reading of Latin of the classical period; designed to train students to read with facility. 1 s.h. (E) ASSOCIATE PROFESSOR ROSE

58. **SIGHT READING IN MEDIAEVAL LATIN.**—One period of an hour per week devoted to reading interesting mediaeval prose and poetry. Prerequisite: at least one of the following courses: Latin 3, 4, 51, 52, and 57, or an equivalent. 1 s.h. (E) ASSOCIATE PROFESSOR ROSE

65-66. **LATIN PROSE COMPOSITION.**—Recommended to students who are pursuing course 3-4, 57, and 51-52, and may at the discretion of the instructor be required of such students. 4 s.h. (E) ASSOCIATE PROFESSOR ROSE

101. **TACITUS.**—Interesting and historically important selections from the *Annals* or the *Histories* of Tacitus are read, with attention to the literary style and the value of the historical narrative. 3 s.h. (E) PROFESSOR ROGERS

102. **JUVENAL.**—Juvenal's literary satire forms the basis of the course. 3 s.h. (E) PROFESSOR ROGERS

103. **CICERO.**—Selections from one of the major philosophical works, with attention to Cicero's philosophical thought and literary style. 3 s.h. (E) PROFESSOR ROGERS OR ASSOCIATE PROFESSOR ROSE

104. **LUCRETIUS.**—A study of Lucretius as a philosophical thinker and as a poetic artist. 3 s.h. (E) PROFESSOR ROGERS OR ASSOCIATE PROFESSOR ROSE

111, 112. **ROMAN LITERATURE IN ENGLISH TRANSLATION.**—Selective readings in Latin Literature in English translation with emphasis on the drama, lyric poetry, and the varied contributions of Cicero to literature in the first term, and upon the epic, the satire, and the novel in the second semester. (No language credit.) 6 s.h. (E) ASSOCIATE PROFESSOR ROSE

131, 132. **HISTORY OF ROME.**—A survey of the history of the Roman State from its beginnings to the death of Justinian; its expansion; development of its constitution and public administration; social, legal, political and economic problems of perennial life and interest; the background and setting of Christianity's rise and growth. (This course carries no language credit. No knowledge of Latin is required for admission.) 6 s.h. (E) PROFESSOR ROGERS

211-212. **ROMAN ORATORY.**—A reading course in the history and development of Roman oratory, based for the most part on Cicero's *Brutus* and the *Dialogus* of Tacitus. 6 s.h. (E) PROFESSOR ROGERS

DEPARTMENTAL MAJOR

Prerequisite: Latin 1-2, 3-4, or equivalent.

Major Requirements: 24 semester hours which must include courses 51-52, 101-102, 103-104, and 6 semester hours in courses at the 200-level.

Recommended Courses: Latin 65-66, Composition, and 131-132, Roman History.

Related Work: Eighteen hours of related work, elected usually in Greek, Philosophy, Art, Romance Languages, and English. Majors who contemplate graduate work are reminded of the necessity of Greek, German, and French for such study.

MATHEMATICS

PROFESSOR GERGEN, CHAIRMAN; PROFESSOR DRESSSEL, DIRECTOR OF UNDERGRADUATE STUDIES;
ASSOCIATE PROFESSOR HICKSON, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS
CARLITZ, ELLIOTT, ROBERTS AND THOMAS; VISITING ASSISTANT PROFESSOR
(PART-TIME) WYLIE; DRs. GALLIE, GORDON, PELLICCIARO, SHOEN-
FIELD, SWIFT; MESSRS. HODGES, SMYTHE; MISS
WILLCOX AND ASSISTANTS

The following program of courses in Mathematics is planned for 1955-56.

Fall: 1, 5, 6, 50, 51, 52, 53, 123, 131, 139, 227, 253, 285, 291.

Spring: 1, 5, 6, 16, 50, 51, 52, 53, 124, 131, 140, 160, 228, 254, 286, 292.

1. INTERMEDIATE ALGEBRA.—Elementary topics, factoring, fractions, linear equations in one, two and three unknowns, functions and graphs, exponents and radicals, elements of quadratic equations. Prerequisite: one unit in algebra and one unit in geometry. 3 s.h. (w & e) STAFF

5. COLLEGE ALGEBRA.—Advanced topics in quadratic equations, systems involving quadratics, variation, binomial theorem, progressions, inequalities, theory of equations, determinants, partial fractions, probability. This course and Mathematics 6 may be taken concurrently. Prerequisite: Mathematics 1, or one and one-half units in algebra and one unit in geometry. 3 s.h. (w & e) STAFF

6. PLANE TRIGONOMETRY.—Logarithms, right and oblique triangles, radian measure, graphs of trigonometric functions, inverse trigonometric functions, trigonometric identities and equations. Prerequisite: must be preceded or accompanied by Mathematics 5. 3 s.h. (w & e) STAFF

16. MATHEMATICS OF INVESTMENT.—Simple and compound interest, annuities certain, amortization, sinking funds, depreciation, evaluation of bonds, life insurance. Prerequisite: Mathematics 5. 3 s.h. (w) STAFF

50. PLANE ANALYTIC GEOMETRY.—Rectangular and polar coordinates, loci, straight lines, conic sections. This course and Mathematics 51 may be taken concurrently. Prerequisite: Mathematics 5 and 6. 3 s.h. (w) STAFF

51. CALCULUS I.—Differentiation of elementary functions, curve tracing, maxima and minima, motion, curvature, indeterminate forms. Prerequisite: must be preceded or accompanied by Mathematics 50. 3 s.h. (w) STAFF

52. CALCULUS II.—Integration of elementary functions, areas, solids of revolution, length of arc, surfaces of revolution, centroids, moments of inertia, pressure. Prerequisite: Mathematics 51. 3 s.h. (w) STAFF

53. CALCULUS III.—Introduction to solid analytic geometry, partial differentiation, multiple integrals, series, introduction to differential equations. Prerequisite: Mathematics 52. 3 s.h. (w) STAFF

123. HIGHER ALGEBRA.—The number system, mathematical induction, inequalities, series, recurring series, continued fractions, recurring continued fractions, summation of series, probability. Offered in alternate years. Prerequisite: Mathematics 53. 3 s.h. (w) ASSOCIATE PROFESSOR HICKSON

124. STATISTICS.—Averages, moments, dispersion, skewness, kurtosis, correlation, types of distributions, curve fitting, graduation of data to type curves, sampling theory. Offered in alternate years. Prerequisite: Mathematics 53. 3 s.h. (w) ASSOCIATE PROFESSOR HICKSON

125. ELEMENTARY THEORY OF EQUATIONS.—Permutations, determinants, matrices, linear systems, polynomials and their roots, constructibility, resultants, discriminants, simultaneous equations. Offered in alternate years. Prerequisite: Mathematics 53. 3 s.h. (w) PROFESSOR THOMAS

131. ELEMENTARY DIFFERENTIAL EQUATIONS.—Solution of differential equations of elementary types; formation and integration of equations arising in applications. Prerequisite: Mathematics 52. 3 s.h. (w) STAFF

139-140. ADVANCED CALCULUS.—Multiple integrals, series, Taylor's theorem, partial differentiation, improper integrals, line integrals, Green's theorem, complex numbers. Prerequisite: Mathematics 53. 6 s.h. (w) PROFESSOR ELLIOTT

158. FINITE DIFFERENCES.—Operators, interpolation formulas for equal and unequal intervals, inverse interpolation, summation, differential and difference operators, approximate integration. Offered in alternate years. Prerequisite: Mathematics 52. 3 s.h. (w) ASSOCIATE PROFESSOR HICKSON

160. ELEMENTARY SOLID ANALYTIC GEOMETRY.—Planes, straight lines, quadric surfaces. Offered in alternate years. Prerequisite: Mathematics 53. 3 s.h. STAFF

175. PROBABILITY.—Permutations and combinations, total and compound probability, Bayes' theorem, Bernoulli's theorem, mathematical expectation, applications. Offered in alternate years. Prerequisite: Mathematics 52. 3 s.h. (w)
ASSISTANT PROFESSOR HICKSON

FOR SENIORS AND GRADUATES

227-228. THEORY OF NUMBERS.—Congruences, arithmetic functions, compound moduli, quadratic reciprocity, Gauss sums, quadratic forms, sums of squares. Prerequisite: Mathematics 53. 6 s.h. (w)
PROFESSOR CARLITZ

229-230. ALGEBRAIC NUMBERS.—Ideals, unique factorization, divisors of the discriminant, determination of the class number. Prerequisite: Mathematics 125. 6 s.h. (w)
PROFESSOR CARLITZ

235-236. ABSTRACT ALGEBRA.—Groups, fields, rings, matrices, quadratic and bilinear forms, general Galois theory, hypercomplex systems. Prerequisite: Mathematics 53. 6 s.h. (w)
PROFESSOR CARLITZ

247-248. ARITHMETIC OF POLYNOMIALS.—Field theory, detailed study of finite fields, special polynomials and functions, valuation theory, the zeta function. Prerequisite: Mathematics 235, or consent of the instructor. 6 s.h. (w)
PROFESSOR CARLITZ

253-254. DIFFERENTIAL GEOMETRY.—Curves and surfaces in three dimensional Euclidean Space, applicability, differential parameters, Riemannian geometry of n -space. Prerequisite: Mathematics 53. 6 s.h. (w)
PROFESSOR THOMAS

255-256. PROJECTIVE GEOMETRY.—Postulational, synthetic treatment centering around Desargues' theorem and the principle of projectivity. Conics, coordinates, order, continuity, metric properties. Prerequisite: Mathematics 53. 6 s.h. (w)
PROFESSOR THOMAS

271-272. INTRODUCTORY TOPOLOGY.—Topological properties of Euclidean spaces, set-theoretic and combinatorial methods. Prerequisite: Mathematics 53. 6 s.h. (w)
PROFESSOR ROBERTS

285. MATHEMATICAL ANALYSIS FOR CHEMISTS AND PHYSICISTS.—Vectors, line and surface integrals, tensors, complex variables, differential and integral equations. Prerequisite: Mathematics 53. 3 s.h. (w)
PROFESSOR DRESSSEL

286. MATHEMATICAL ANALYSIS FOR CHEMISTS AND PHYSICISTS.—Wave equation, Fourier series, heat equation, telegraphic equations, Legendre polynomials, Bessel functions, Schrödinger's equation. Prerequisite: Mathematics 53. 3 s.h. (w)
PROFESSOR DRESSSEL

291-292. THEORY OF FUNCTIONS.—Limits, implicit functions, power series, double series, Cauchy's theorem and its applications, residues, Riemann surfaces, conformal mapping. Prerequisite: Mathematics 53. 6 s.h. (w)
PROFESSOR GERGEN

DEPARTMENTAL MAJOR

For the A.B. degree:

Prerequisite: Mathematics 5 and 6.

Major and Related Work: 42 semester hours.

Major Requirements: Mathematics 50, 51, 52, 53 and 12 semester hours in courses in mathematics numbered above 100.

Related Work: 18-24 semester hours of course work, ordinarily in the following departments: chemistry, economics and business administration, philosophy, physics.
For the B.S. degree:

Prerequisite: Mathematics 5 and 6.

Major and Related Work: 48 semester hours.

Major Requirements: Mathematics 50, 51, 52, 53 and 12 semester hours in courses in mathematics numbered above 100.

Related Work: 14-24 semester hours of course work in the natural sciences.

MEDICAL SCIENCE

These courses in medical science have been approved by the Faculty Council as appropriate for the Bachelor's degree.

103. HUMAN PHYSIOLOGY.—A course in human physiology in which the functions of all organ systems are covered. Special emphasis is given to the study of neuro-muscular and cardiovascular functions. Lectures, laboratory experiments and demonstrations, and conferences. Limited to sixteen students. Primarily for physical therapy students. Prerequisites: Chemistry 1-2 and Zoology 1-2. 6 s.h.
ASSOCIATE PROFESSOR MCCREA AND STAFF

109. ANATOMY RELATED TO MOTION.—A course in human anatomy in which the dissection is restricted to the muscles, bone, and joints and to the circulatory and nervous systems as they are related to movement. Lectures and laboratory. Prerequisite: Zoology 1-2. 8 s.h.
PROFESSOR MARKEE AND STAFF

NAVAL SCIENCE

PROFESSOR FORD, CAPTAIN, U. S. NAVY, CHAIRMAN; ASSOCIATE PROFESSOR CLARKE, LIEUTENANT COLONEL, U. S. MARINE CORPS, DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR LAWSON, LIEUTENANT COMMANDER, U. S. NAVY, SUPERVISOR OF FRESHMAN INSTRUCTION; ASSISTANT PROFESSORS DAWSON, LIEUTENANT COMMANDER, U. S. NAVY, IVES AND PATTERSON, LIEUTENANTS, U. S. NAVY; AND ASSISTANT PROFESSOR MORRISON, MAJOR, U. S. MARINE CORPS

Standardized titles and numbers for courses are established by the Bureau of Naval Personnel for use at the 52 NROTC institutions. The first digit indicates the year of the course; the second digit indicates whether semester or quarter (0 for semester, 1 for quarter); the third digit indicates the semester or quarter of school year in which offered. Specialized courses for Marine Corps officer candidates are indicated by the letter "M" after the number, and substitute for the basic course of the same number.

NS 101. NAVAL HISTORY.—History of navy regulations, naval customs and courtesies considered basic to further study of Naval Science; naval history, relating the rise and fall of sea power to other aspects of world history as a basis for understanding the role of navies in the world today. 3 s.h. (w)

LIEUTENANT COLONEL CLARKE,
LIEUTENANT COMMANDER LAWSON

NS 102. NAVAL ORIENTATION.—Introduction to carrier, air, surface, under-sea, and amphibious warfare; basic types, characteristics, capabilities, and limitations of naval vessels; deck seamanship; naval formations and maneuvers. 3 s.h. (w)

LIEUTENANT COLONEL CLARKE,
LIEUTENANT COMMANDER LAWSON

NS 201. NAVAL WEAPONS.—Evolution of naval ordnance; types and properties of explosives; principles in design and assembly of guns and ammunition; gun assembly types and operation, capabilities and limitations of past, present and future weapons systems; principles and use of radar and radar systems; elements and principles in the problem of control of naval weapons against air and surface targets. 3 s.h. (w)

LIEUTENANT PATTERSON

NS 202. NAVAL WEAPONS.—The elements of representative gun fire control systems; principles in the mechanical and electronic solution of fire control problems; principles in the alignment and maintenance of gun batteries; organization and functions of the combat information center; naval gunfire support of amphibious operations; principles and use of anti-submarine warfare devices and systems; principles of torpedoes, mines, rockets, and guided missiles. 3 s.h. (w)

LIEUTENANT PATTERSON

NS 301. NAVAL ENGINEERING.—Principles of steam engineering as related to naval installations for main propulsion and auxiliaries; future trends in naval engineering plants, ship stability and buoyancy in the practice of ship design and damage control; a general understanding of Diesel Engines. 3 s.h. (w)

LIEUTENANT IVES

NS 301M. EVOLUTION OF THE ART OF WAR.—A survey of the evolution of weapons, strategy, tactics and material; illustration of the classic principles of war by a study of selected battles and campaigns; a summary of the development of U. S. military and foreign policy. 3 s.h. (w)
MAJOR MORRISON
For Marine Corps Candidates.

NS 302. NAVIGATION.—Magnetic and gyro compasses; principles of chart construction; dead reckoning; piloting; nautical astronomy including a study of the actual and apparent motion of the earth, celestial coordinates, time systems, the astronomical triangle, identification of stars and planets; solutions of observations for lines of position; complete day's work in practical navigation. 3 s.h. (w)
CAPTAIN FORD; LIEUTENANT COMMANDER DAWSON

NS 302M. MODERN BASIC STRATEGY AND TACTICS.—Modern tactical principles and techniques, especially on the small unit level, illustrated by contemporary historical examples; development of a general understanding of strategy. 3 s.h. (w)
MAJOR MORRISON
For Marine Corps Candidates.

NS 401. NAVAL OPERATIONS.—Tactics and operations including concepts of combined fleet, force, and group operations; watchstanding duties afloat; relative motion and its application to tactical maneuvering; electronic navigation; communications from ship to ship through fleet levels; Rules of the Nautical Road. 3 s.h. (w)
CAPTAIN FORD; LIEUTENANT COMMANDER DAWSON

NS 401M. AMPHIBIOUS WARFARE.—History and development of amphibious operations and organization; analyses of amphibious operations of World War II and of the Korean action. 3 s.h. (w)
MAJOR MORRISON
For Marine Corps Candidates.

NS 402. NAVAL ADMINISTRATION.—Structure of the Navy, organization and administrative procedures; principles of personnel management; elements of military law; leadership and personal relations. 3 s.h. (w)
LIEUTENANT IVES

NS 402M. AMPHIBIOUS WARFARE, PART II.—Further study of selected amphibious operations; Uniform Code of Military Justice; leadership. 3 s.h. (w)
MAJOR MORRISON
For Marine Corps Candidates.

REQUIREMENTS FOR COMMISSION

Naval Science: 24 semester hours.

Other university courses: Completion of course requirements to qualify for a baccalaureate degree, or higher. These courses must include Math 6 (unless math through trigonometry successfully completed in secondary school); Physics 1, 2 or 51, 52, to be completed by the end of the sophomore year (mandatory for Regular students only). Physical training must be taken in accordance with University requirements and each student must include such instruction in swimming as to qualify him as a first class swimmer.

Summer training: Regular NROTC students must participate in three periods of training on board ship or at naval shore stations. Contract students are required to take one training cruise of about six weeks' duration, normally between the junior and senior years.

PHILOSOPHY

PROFESSOR NEGLEY, CHAIRMAN; ASSISTANT PROFESSOR BUCK, DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR PEACH, SUPERVISOR OF FRESHMAN INSTRUCTION;
PROFESSORS BAYLIS AND PATTERSON; ASSISTANT PROFESSORS
CLARK AND WELSH

The undergraduate program in the Department of Philosophy is designed to acquaint students with the content and the structure of philosophical theory in various areas. Discussion is encouraged so that the student can actively engage in the philosophical examination of problems.

Course offerings fall into two general categories: the systematic and the historical. In a systematic treatment, the organization of a course is primarily in terms of the

problems presented by the subject-matter of that course, as in logic, ethics, metaphysics, etc. In historical courses, attention is directed more to the order of development in the thought of a particular philosopher (Plato, Aristotle, Kant, etc.), or in a historical period. In all courses, reading of the works of philosophers will acquaint the student with the important and influential contributions to the definition and solution of philosophical issues.

The problems raised in philosophy in respect to the various fields of the arts and sciences involve questions which are not normally given attention in those particular disciplines. In the consideration of such problems, therefore, it is expected that the student will acquire some understanding and perspective of the major areas of man's intellectual endeavor. In this sense, philosophical comprehension is an essential part of a student's learning and education.

The following courses fulfill minimum uniform requirements:

Literature, Art, Music, and Philosophy (six hours required)—Philosophy 49, 91, 93, 94, 97, 98, 116, 117.

Natural Sciences (eleven hours required)—Three of the eleven hours may be fulfilled by Philosophy 48, 103, or 104.

All courses numbered below 200 will be offered every year. The following senior-graduate courses will be offered in 1955-56: 201, 205, 211, 219, 220, 227, 228, 232, 241, 250.

48. LOGIC.—A study of the conditions of effective thinking and clear communication, and of typical sources of fallacies. Examination of the basic principles of *deductive* reasoning (making explicit the implications of statements) and of *inductive* reasoning (the formulation and testing of hypotheses on the basis of experience and experiment). Emphasis on practical illustrations and applications. 3 s.h. (E & W)
ASSISTANT PROFESSORS BUCK, CLARK, AND WELSH

49. ETHICS.—An introductory consideration of basic ethical concepts and principles as developed in European and American thought and culture. 3 s.h. (E & W)
PROFESSORS BAYLIS AND NEGLEY; ASSISTANT PROFESSORS BUCK AND WELSH

91. INTRODUCTION TO PHILOSOPHY.—A systematic and historical examination of the major problems of knowledge, morals, and metaphysics. 3 s.h. (E & W)
STAFF

93. HISTORY OF PHILOSOPHY: ANCIENT AND MEDIEVAL.—A study of the major philosophers of the period with special reference to the continuity of their thought. 3 s.h. (E & W)
PROFESSOR PATTERSON; ASSISTANT PROFESSOR BUCK

94. HISTORY OF PHILOSOPHY: MODERN.—A study of the major philosophers of the period with special reference to the continuity of their thought. 3 s.h. (E & W)
ASSISTANT PROFESSOR PEACH

97. POLITICAL AND SOCIAL PHILOSOPHY.—Discussion of the fundamental principles of political and social organization, with particular attention to democratic philosophy, corporate theory, and Marxist ideology. 3 s.h. (E)
PROFESSOR NEGLEY

98. SOCIAL IDEALS AND UTOPIAS.—Reading of selected Utopias; analysis of the value-structures and political principles of these ideal societies. 3 s.h. (E)
PROFESSOR NEGLEY

101. PHILOSOPHY OF RELIGION.—A critical examination of the facts of religious experience and their bearing upon metaphysics. 3 s.h. (E)
PROFESSOR PATTERSON

103. SYMBOLIC LOGIC.—Detailed analysis of deduction and of deductive systems. 3 s.h. (E)
ASSISTANT PROFESSOR CLARK

104. PHILOSOPHY OF SCIENCE.—The principal philosophical and methodological problems in contemporary science. 3 s.h. (E)
ASSISTANT PROFESSOR CLARK

109. INTRODUCTION TO THE PHILOSOPHY OF LANGUAGE.—Examination and discussion of such problems as the origin of language, sign-using behavior, definition, the nature of interpretation, and special uses of language: scientific, poetic, persuasive. 3 s.h. (W)
ASSISTANT PROFESSOR WELSH

116. THE DEVELOPMENT OF PHILOSOPHY IN AMERICA.—A historical and critical survey of the leading philosophical movements from Colonial times to the present. 3 s.h. (E) PROFESSOR NEGLEY

117. HISTORY OF ETHICS.—A survey and analysis of the ethical systems of the great philosophers. Readings in original sources. 3 s.h. (E) ASSISTANT PROFESSOR WELSH

FOR SENIORS AND GRADUATES

202. PHILOSOPHY OF ART.—A study of some fundamental issues in aesthetics, with particular reference to the fields of literature, music, and painting. Problems discussed include: the nature and purposes of the arts; meaning in the arts; art and morality; the role of standards in art criticism; aesthetic judgment; interpretation and evaluation. 3 s.h. (E) ASSISTANT PROFESSOR WELSH
Offered every year.

203. CONTEMPORARY ETHICAL THEORIES.—Critical discussion and evaluation of the ethical views of twentieth century British and American philosophers. 3 s.h. (E) PROFESSOR BAYLIS
Offered in 1956-7 and in alternate years.

205. EPISTEMOLOGY.—A critical and evaluative study of rival theories of meaning, truth and knowledge, of the nature and grounds of a priori knowledge, and of the nature of empirical knowledge and the types of empirical evidence. 3 s.h. (E) PROFESSOR BAYLIS
Offered every year.

208. POLITICAL PHILOSOPHY.—Analysis of the structure of social organization with particular reference to the nature of political and legal institutions. 3 s.h. (E) PROFESSOR NEGLEY
Offered in 1956-7 and in alternate years.

210. PHILOSOPHY OF RELIGION.—A critical and constructive study of the nature of religion, of its various forms and manifestations, and of its functions in human life. 3 s.h. (E) PROFESSOR PATTERSON
Offered in 1956-7.

211. PLATO.—An examination of Plato's views with respect to knowledge, reality, and the state. 3 s.h. (E) PROFESSOR PATTERSON
Offered in 1955-6 and in alternate years.

217. ARISTOTLE.—An analysis of Aristotle's views with respect to knowledge, reality, and the state. 3 s.h. (E) PROFESSOR PATTERSON
Offered in 1956-7 and in alternate years.

218. MEDIEVAL PHILOSOPHY.—A study of the philosophy of the Middle Ages with special attention to selected texts from the works of Christian, Jewish and Arabian philosophers. 3 s.h. (E) PROFESSOR PATTERSON
Offered in 1956-7 and in alternate years.

219. KANT.—Reading and discussion of his philosophy, with some attention to historical continuity. 3 s.h. (E) PROFESSOR NEGLEY
Offered in 1955-6 and in alternate years.

220. THE POST-KANTIANS.—The development from Kant through Fichte and Schelling to Hegel; emphasis on the Hegelian dialectic and its influence on political and legal philosophy. 3 s.h. (E) PROFESSOR NEGLEY
Offered in 1955-6 and in alternate years.

222. REASON AND COMMON SENSE IN 17TH AND 18TH CENTURY BRITISH THOUGHT.—Studies in the theories of reason and sentiment following Hobbes, and the development of opposition among rational, common sense and empirical theories of knowledge and conduct. Readings in Cumberland, Shaftesbury, Hutcheson, Reid and others. 3 s.h. (E) ASSISTANT PROFESSOR PEACH
Offered in 1956-7 and in alternate years.

223. CONTEMPORARY PHILOSOPHY: IDEALISM.—Examination and analysis of the idealist position in recent and contemporary philosophy, with special attention to the works of F. H. Bradley and the British Idealists. 3 s.h. (E) PROFESSOR NEGLEY
Offered in 1956-7 and in alternate years.

224. CONTEMPORARY PHILOSOPHY: REALISM.—A critical analysis, comparison and evaluation of the several varieties of recent realistic theories, presentative and representative. 3 s.h. (E) PROFESSOR BAYLIS

Offered in 1956-7 and in alternate years.

225. BRITISH EMPIRICISM.—A critical study of the writings of Locke, Berkely, and Hume, with special emphasis on problems in the theory of knowledge. 3 s.h. (E)

Offered in 1956-7 and in alternate years.

227. CONTINENTAL RATIONALISM.—A critical study of the writings of Descartes, Spinoza, and Leibnitz, with special emphasis on problems in the theory of knowledge and metaphysics. 3 s.h. (E) ASSISTANT PROFESSOR PEACH

Offered in 1955-6.

228. RECENT AND CONTEMPORARY PHILOSOPHY.—A critical study of outstanding philosophical views from Schopenhauer to the present. 3 s.h. (E)

Offered in 1955-6 and in alternate years.

ASSISTANT PROFESSOR PEACH

232. SPECIAL PROBLEMS IN THE PHILOSOPHY OF SCIENCE.—Selected topics concerning the methods of the sciences and the philosophy of science. 3 s.h. (E) ASSISTANT PROFESSOR CLARK

Offered every year.

236. ORIENTAL PHILOSOPHY.—A study of the genesis of philosophical ideas in the Upanishads and the Bhagavadgita, and of the developments of the orthodox systems and of the philosophies of the Jains and Buddhists. 3 s.h. (E)

Offered in 1957-8 and every third year.

PROFESSOR PATTERSON

241. LOGIC.—Fundamental Problems of Logic. 3 s.h. (E)

Offered every year.

ASSISTANT PROFESSOR CLARK

250. PHILOSOPHICAL ANALYSIS.—A critical study of recent and contemporary essays in philosophical analysis, and an evaluation of the nature, methods, and results of this movement. 3 s.h. (E) PROFESSOR BAYLIS AND ASSISTANT

Offered in 1955-6 and in alternate years.

PROFESSOR BUCK

252. METAPHYSICS.—A critical and evaluative study of rival metaphysical theories and their bases. Analysis of the fundamental metaphysical categories and of metaphysical methods. 3 s.h. (E) PROFESSOR BAYLIS

DEPARTMENTAL MAJOR

Philosophy 48 (Logic) is recommended for all those intending to major in philosophy.

Major Requirements: Twenty-four semester hours in philosophy in courses numbered above 50 including the following:

Philosophy 93 and 94.

Philosophy 117, 203, or 208.

6 semester hours in Philosophy senior-graduate courses.

Related work: Six hours minimum in each of two departments approved by the Philosophy adviser. Courses may not be those primarily open to freshmen. There is no restriction in principle as to departments in which related work may be taken, and the approval of the Philosophy adviser is required only to insure some coherence in the program of major and related work as a whole.

PHYSICS

PROFESSOR NIELSEN, CHAIRMAN; ASSISTANT PROFESSOR LEWIS, DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSOR CARPENTER, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS GORDY, NEWSON, NORDHEIM, AND SPONER; ASSOCIATE PROFESSORS FAIRBANK AND GREULING; ASSISTANT PROFESSORS BLOCK AND WILLIAMSON; MR. FAGOT; AND ASSISTANTS

A student wishing to major in physics should arrange to complete the necessary mathematics as soon as possible.

1-2. INTRODUCTORY PHYSICS.—This course traces historically and experimentally the development of the important principles of physics. This course is open to freshmen, sophomores and juniors and meets the general science requirement. Three hours of recitation and one two-hour laboratory each week. 8 s.h. (w)

PROFESSOR CARPENTER AND STAFF; AND ASSISTANTS

51-52. GENERAL PHYSICS.—This course treats the basic principles of general physics in a more quantitative manner than Physics 1-2. It is designed for sophomores and juniors, and meets in a thorough way the physics requirement for entrance into the study of either medicine or engineering, and is well suited for the general science student. A limited number of freshmen who present physics for entrance and who are taking the required mathematics concurrently may be admitted by permission of the instructor. This course is not open for credit for students who have completed Physics 1-2. Four lecture-recitations and one three-hour laboratory period each week. Prerequisites: Mathematics 5-6 or equivalent (Mathematics 6 may be taken concurrently). 10 s.h. (w)

PROFESSOR CARPENTER AND STAFF; AND ASSISTANTS

125. INTERMEDIATE PHYSICS—MECHANICS.—The course covers in a thorough manner the elements of mechanics. Three recitations per week. Prerequisites: Physics 1-2 or 51-52 or equivalent, and a course in differential and integral calculus which may be taken concurrently. 3 s.h. (w)

PROFESSOR NIELSEN

126. INTERMEDIATE PHYSICS—ELECTRICITY.—The elements of electricity and magnetism. Three lectures and one three-hour laboratory per week. Prerequisites: Physics 125 or equivalent work approved by the instructor, and differential and integral calculus. Integral calculus may be taken concurrently. 4 s.h. (w)

ASSISTANT PROFESSOR LEWIS

175. INTERMEDIATE PHYSICS—OPTICS.—The elements of geometrical and physical optics. Three recitations and one three-hour laboratory per week. Prerequisites: Physics 125 and 126 or equivalent work approved by instructor, and differential and integral calculus. 4 s.h. (w)

PROFESSOR SPONER

176. INTERMEDIATE PHYSICS—THERMODYNAMICS AND KINETIC THEORY.—The elements of thermodynamics and kinetic theory and elementary statistical mechanics. Three recitations per week. Prerequisites: Physics 125 or equivalent work approved by the instructor, and differential and integral calculus. 3 s.h. (w)

ASSOCIATE PROFESSOR FAIRBANK

A course in general college physics, Physics 125 and 126 or equivalent validated by examination, and a course in differential and integral calculus are prerequisites to all courses numbered 200 and above.

201-202. MECHANICS.—The fundamental principles of statics and the dynamics of particles and rigid bodies. Three recitations each week. 6 s.h. (w)

ASSISTANT PROFESSOR WILLIAMSON AND PROFESSOR NORDHEIM

213-214. CONTEMPORARY PHYSICS.—A course which covers the fundamental concepts and the experimental basis of modern physics. Three lectures each week. 6 s.h. (w)

ASSISTANT PROFESSOR LEWIS

217-218. ADVANCED PHYSICS LABORATORY.—Measurements involving the fields of mechanics, electricity, magnetism, heat, sound, optics and modern physics. 2-6 s.h. (w)

THE STAFF

219. ELECTRICITY AND MAGNETISM.—Fundamentals of electricity and magnetism. Motion of charged particles in fields and the physics of electron tubes. Direct and alternating current circuits and networks. Electromagnetic waves. 3 s.h. (w)

ASSISTANT PROFESSOR LEWIS

220. ELECTRON TUBE CIRCUITS.—Linear circuit analysis, rectifiers, filters, linear amplifiers, feedback, noise, power amplifiers, oscillators, modulation, relaxation oscillators. 4 s.h. (w)

ASSISTANT PROFESSOR WILLIAMSON

225-226. **ELEMENTARY INVESTIGATIONS.**—The aim of this course is to provide training in the laboratory and library methods of physical research. Properly qualified students may conduct elementary investigations under the supervision of a member of the staff. 3-6 s.h. (w) THE STAFF

DEPARTMENTAL MAJOR

A. For the A.B. degree:

Prerequisites: Physics 1-2 or 51-52 or equivalent, and Mathematics 5-6.

Major Requirements: Eighteen to 24 semester hours in physics including Physics 125, 126, 175 and 176 or equivalent.

Related Work: Eighteen to 24 semester hours from the following courses: Mathematics 51, 52, 53 and 131, and Chemistry 1-2.

B. For the B.S. degree:

Prerequisites: Physics 1-2 or 51-52 or equivalent, and Mathematics 5-6 or equivalent.

Major Requirements: Twenty-four to 34 semester hours in physics including Physics 125, 126, 175 and 176 or equivalent.

Related Work: Fourteen to 24 semester hours from the following courses: Mathematics 51, 52, 53 and 131, and Chemistry 1-2.

POLITICAL SCIENCE

PROFESSOR RANKIN, CHAIRMAN; PROFESSOR CONNERY, DIRECTOR OF UNDERGRADUATE STUDIES;
PROFESSORS COLE, HALLOWELL, VON BECKERATH AND WILSON; VISITING PROFESSOR
REDFORD; LECTURER ELLIS; ASSOCIATE PROFESSORS SIMPSON AND BRAIBANTI;
ASSISTANT PROFESSORS CHEEK AND HANSON; DR. HALL;
DR. SINDLER; MR. ULMER

The general objective of the Department of Political Science is to acquaint students with the theory and practice of government and politics at the local, state, national and international levels. While primary attention is focused upon the American political and administrative system, emphasis is also placed upon a comparative study of the political institutions and movements of thought peculiar to the nations of Europe, Latin America and the Far East. The student's attention is also directed to the problems encountered in international organization, politics and law. The development of political theories from Plato to the present day is an essential part of the department's course offerings. Methods of study include the descriptive, the historical, the legal, the comparative and the philosophical.

Directing its effort to an intelligent understanding of the contemporary world and of the responsibilities which are laid upon citizens of a democracy, the Department of Political Science shares the general objectives of a liberal arts education. While the department does not aim at vocational education, the knowledge it seeks to impart should be useful to anyone contemplating a career in the government service or politics.

Students intending to major in the department should take Political Science 11-12, 61-62, or 63-64. No student may take more than one of these three courses for credit. Ordinarily one of them must be taken before proceeding to more advanced work in the department. This rule may be waived with the consent of the instructor giving the advanced course.

The advanced courses are divided into three major groups but no sequence of courses beyond the introductory course is prescribed. The student would be well advised, however, to select some courses from each group.

The Senior Seminars are designed to provide an opportunity for majors in the department to pursue independent study and research.

INTRODUCTORY COURSES

11-12. **THE AMERICAN SYSTEM OF GOVERNMENT.**—An introductory study of the principles and operation of the American government in the light of the present world position of the United States. (Only open to Freshmen.) 6 s.h. (E & W) DR. HALL; DR. SINDLER

[Students who complete 11 in the spring semester should thereafter take course 62 instead of 12.]

61-62. AMERICAN GOVERNMENT AND POLITICS.—A study of the American constitutional and political system. Among other topics attention is given to the development of the constitution, federal-state relations, political parties and the organization and functions of the national, state and local governments. 6 s.h.
(W & E) PROFESSOR CONNERY; ASSOCIATE PROFESSOR SIMPSON; ASSISTANT PROFESSOR CHEEK; DR. HALL; DR. SINDLER; MR. ULMER

[Not open to freshmen or to students who have had courses 11-12 or 63-64.]

63-64. MODERN CONSTITUTIONAL GOVERNMENT.—Principles and institutions of modern constitutional government, the first semester being devoted to American government, the second to government outside the United States. 6 s.h.
(W & E) DR. ELLIS

[Not open to Freshmen or to students who have had courses 11-12 or 61-62.]

POLITICAL THEORY AND COMPARATIVE GOVERNMENT

123. INTRODUCTION TO POLITICAL PHILOSOPHY.—A course devoted to the reading and discussion of selected political classics including Plato's *Republic*, Aristotle's *Ethics* and *Politics* and other works as time permits. 3 s.h. (w)
PROFESSOR HALLOWELL

136. MAJOR EUROPEAN GOVERNMENTS.—A general introductory survey of the governments of Great Britain, France, Germany, Italy, and the Soviet Union. Special attention is given to constitutional developments, the organization and ideologies of political parties, and current political problems. 3 s.h. (w)
PROFESSOR COLE

151. GOVERNMENTS AND POLITICS OF MEXICO AND THE CARIBBEAN AREA.—A study of their contemporary governments, political problems and international relations. 3 s.h. (w)
DR. ELLIS

152. THE GOVERNMENTS AND POLITICS OF SOUTH AMERICA.—The constitutional development, governmental organization, inter-American co-operation and political problems of the principal South American states. 3 s.h. (w)
DR. ELLIS

180. JURISPRUDENCE.—The development of legal systems and institutions together with a consideration of representative philosophies of law from ancient times to the present day. 3 s.h. (w)
PROFESSOR HALLOWELL

211. POLITICAL INSTITUTIONS OF THE FAR EAST.—An analysis of the ideas underlying the development of government in Japan, China, and Korea. Study of the writings of Lao-tse, Confucius and the sacred books of Buddhism and Shinto. Particular attention is given to the theory of Confucian bureaucracy, the Taikwa Reform, the development of the Tokugawa administrative state, the constitutional reforms of Sun Yat-sen in China and of the Meiji Era in Japan. 3 s.h. (w)
ASSOCIATE PROFESSOR BRAIBANTI

223. POLITICAL THOUGHT TO THE SEVENTEENTH CENTURY.—A survey from the time of Plato to the close of the seventeenth century; Graeco-Roman, Patristic and Germanic thought; individualism and cosmopolitanism; effect of the Church-State controversy and the conciliar movement; medieval constitutionalism; legislative sovereignty. 3 s.h. (w)
PROFESSOR WILSON

224. MODERN POLITICAL THEORY.—An historical survey and philosophical analysis of political theory from the beginning of the seventeenth to the middle of the nineteenth century. Attention is given to the rise of liberalism, the Age of Enlightenment, the romantic and conservative reaction, idealism and utilitarianism. 3 s.h. (w)
PROFESSOR HALLOWELL

225. COMPARATIVE GOVERNMENT.—A comparative study of modern political institutions with particular attention to European constitutional government and politics. 3 s.h. (w)
PROFESSOR COLE

226. COMPARATIVE GOVERNMENT.—A comparative study of modern political institutions with particular attention to European authoritarian and dictatorial government and politics. 3 s.h. (w) PROFESSOR COLE

229. RECENT AND CONTEMPORARY POLITICAL THEORY.—The rise of positivism and its impact upon modern political thought, the origins of socialism, Marxism and its variants, socialism in the Soviet Union, nationalism, Fascism and National Socialism, the crisis in modern democracy, Christianity and the social order. 3 s.h. (w) PROFESSOR HALLOWELL

231. AMERICAN POLITICAL THEORY.—An analysis of the main currents in American political thought from colonial beginnings to the present day, with emphasis upon the development of liberalism in America. 3 s.h. (w) PROFESSOR HALLOWELL

235. THE BRITISH COMMONWEALTH.—An analysis of the political relationships between the members of the Commonwealth and a comparative study of the governments of the Dominions, with particular reference to Canada. 3 s.h. (w) PROFESSOR COLE

252. SPANISH-AMERICAN CONSTITUTIONALISM.—A comparative study of the nature, sources, and use of political authority in the constitutional law of Argentina, Chile, Colombia, and Uruguay. 3 s.h.

AMERICAN GOVERNMENT AND PUBLIC ADMINISTRATION

125. AMERICAN POLITICAL PARTIES AND PRACTICAL POLITICS.—A study of the historical development, organization, and methods of political parties in the United States. 3 s.h. (w) ASSOCIATE PROFESSOR SIMPSON

128. POLITICAL BEHAVIOR AND THE AMERICAN VOTER.—An analysis of the factors influencing Democratic, Republican, and independent voting behavior, citizen participation in elections, and the conduct of political campaigns. Emphasis will be placed upon the behavioral approach to political science. 3 s.h. (w) DR. SINDLER

141. PUBLIC ADMINISTRATION.—An introduction to the role of administration in the governmental process considering principles of administrative organization, methods of administrative control, personnel and fiscal management. In general the study of the organizational and administrative problems encountered by any government agency charged with carrying out a public policy. 3 s.h. (w) DR. HALL

146. LEGISLATION.—A study of the composition and structures of legislative bodies and of the legislative process with attention to procedure, methods, techniques, delegation of discretion, and the use of controls. 3 s.h. (w) ASSOCIATE PROFESSOR SIMPSON

161. GOVERNMENT AND PLANNING.—A study of special areas in government planning. The semester's work is divided into three parts: city planning—land use and zoning, housing and urban redevelopment; resource planning—the governmental problems involved in planning for the conservation and use of natural resources, with special attention given to multi-purpose development of the river and its watershed, and a brief consideration of proposals and developments in the general field of economic planning. 3 s.h. (w) ASSISTANT PROFESSOR HANSON

164. GOVERNMENT CONTROL OF THE SOCIAL AND ECONOMIC ORDER.—A study of governmental and administrative problems in the regulation of trade and the enforcement of the anti-trust laws, the regulation of transportation and communications and the role of the government in collective bargaining. Consideration is also given to the philosophic aspects of the general growth of government control of industry. 3 s.h. (w) ASSISTANT PROFESSOR HANSON

174. POLITICS AND ECONOMICS.—An analysis of the influence of politically dominant forces and ideologies upon economic policies and of economics upon politics in societies of principal Western countries since the seventeenth century. 3 s.h. (w) PROFESSOR VON BECKERATH

190. PUBLIC PERSONNEL ADMINISTRATION.—Principles, problems, and functions of government personnel administration; formal and informal organization for personnel management; comparison of public employment philosophies, policies and services with general personnel management, including recruitment, promotion, training, classification, morale and discipline, compensation, and retirement of public employees. 3 s.h. (E) ASSISTANT PROFESSOR CHEEK

191. TOPICS IN LOCAL GOVERNMENT.—Problems in the general area of county and local government including the administration of government services such as education, public welfare, law enforcement; inter-governmental relationships; administrative reorganization; methods of popular control; and the reconstruction of state and local government so as to meet present-day needs. 3 s.h. (E) ASSISTANT PROFESSOR CHEEK

207. AMERICAN CONSTITUTIONAL LAW AND THEORY.—A study of leading principles of American government, as developed through judicial interpretation of the Constitution. 3 s.h. (w) PROFESSOR RANKIN

209. PROBLEMS IN STATE AND LOCAL GOVERNMENT IN THE UNITED STATES.—A study of the historical development of state and local governments, their present organizations and subdivisions, and their relation to each other. Special attention is given to the position of the states in the federal union through the study of federal-state, inter-state, and state-local relations. 3 s.h. (w) PROFESSOR RANKIN

230. AMERICAN POLITICAL INSTITUTIONS.—A study of the formation and development of institutions of the national government in the United States, with historical and analytical treatment. Among other topics this course is concerned with the Constitutional Convention of 1787, and the development of Congress, the Presidency, and the Supreme Court. 3 s.h. (w) PROFESSOR RANKIN

241. ADMINISTRATIVE MANAGEMENT.—An advanced course in public administration with special attention being given to the development of scientific management, its application to government in the United States and a consideration of current problems in organization, procedures, work simplification, and management improvement. 3 s.h. (w) PROFESSOR CONNERY AND VISITING PROFESSOR REDFORD

242. NATIONAL ADMINISTRATION.—A study of the administrative organization, working concepts and procedures of the United States Government, illustrated through the operations of the Bureau of the Budget. 3 s.h. (w) PROFESSOR CONNERY

246. GOVERNMENT ADMINISTRATION AND PUBLIC POLICY.—Through use of the laboratory and case study techniques, a consideration of the types of administrative problems that the United States Government encounters in the field of public policy, and their possible solution. 3 s.h. (w) PROFESSOR CONNERY

271. SOCIOPOLITICS AND CAPITALISM.—Labor and labor policies in Western Europe and the United States in the nineteenth and twentieth centuries; the development of monopoly power and political power of labor in recent decades. 3 s.h. (w) PROFESSOR VON BECKERATH

291. PROBLEMS OF MUNICIPAL GOVERNMENT.—An analysis of problems relating to the structural system and activities of municipalities in the United States. 3 s.h. (w) PROFESSOR RANKIN

292. MUNICIPAL ADMINISTRATION.—A study of principles and methods relating to municipal administration in the United States. 3 s.h. (w) PROFESSOR RANKIN

INTERNATIONAL LAW AND RELATIONS

121. ELEMENTS OF INTERNATIONAL RELATIONS.—Analysis of international politics, of the foundations of national power, and of international cooperation, with emphasis upon attempted solutions of the central problems of international security. 3 s.h. (w) DR. ELLIS

122. MODERN INTERNATIONAL POLITICS.—A survey of politics leading to the two World Wars with emphasis upon present day conditions resulting from these major conflicts. 3 s.h. (w) DR. ELLIS

Students who have received credit for History 135-136 may not receive credit for this course.

131. SURVEY OF FAR EASTERN POLITICS.—An introductory survey of international politics in Eastern Asia and the Western Pacific; the rise of Japan as a modern state; China's struggle for political unity, independence and national development. 3 s.h. (Formerly Political Science 111) (w)

DR. ELLIS AND ASSOCIATE PROFESSOR BRAIBANTI

132. CONTEMPORARY PROBLEMS IN FAR EASTERN POLITICS.—The impact of World War II and its aftermath on political institutions and economic structures in the Pacific area. 3 s.h. (Formerly Political Science 112) (w)

DR. ELLIS AND ASSOCIATE PROFESSOR BRAIBANTI

158. CONTROL OF AMERICAN FOREIGN POLICY.—A consideration of the forces which are responsible for the formulation of American foreign policy, and a study of the important factors which have influenced contemporary United States policy in the major areas of the world. The course includes an analysis of the respective roles of the President, Congress, Department of State, and the United Nations, as well as military and public opinion. 3 s.h. (w)

212. INTERNATIONAL POLITICS OF THE FAR EAST.—An analysis of the relations of China, Japan and Korea *inter se* and with outside powers, with emphasis upon changing power relationships within the Asian cultural sphere. 3 s.h. (w)

ASSOCIATE PROFESSOR BRAIBANTI

221. INTERNATIONAL PUBLIC ORGANIZATION.—A study of the structure and functioning of the United Nations organs, of related specialized agencies such as the International Labor Organization, and of regional agencies such as the Organization of American States. 3 s.h. (w)

PROFESSOR WILSON

227-228. INTERNATIONAL LAW.—Elements of international law, particularly as interpreted and applied by the United States; rights and duties of states with respect to recognition, state territory and jurisdiction, nationality, diplomatic and consular relations, treaties, treatment of aliens, pacific settlement of disputes, international regulation of the use of force, and collective security. 6 s.h. (w)

PROFESSOR WILSON

UNDERGRADUATE SEMINARS

201. SENIOR SEMINAR IN POLITICAL SCIENCE.—A seminar intended primarily for majors in Political Science, devoted to the reading, discussion and analysis of major works in modern and contemporary political science. Students are expected to prepare papers on relevant topics for group discussions. Open only to seniors. Prerequisite: consent of the instructor. 3 s.h. (w) PROFESSORS COLE AND HALLOWELL

202. SENIOR SEMINAR IN POLITICAL SCIENCE.—Intended primarily for majors in Political Science, this seminar provides an opportunity for the application of principles to current political problems. It provides a means whereby specially qualified students can make a concentrated study of some problem of their own choice. Papers are required and special attention is given to research methods and materials. Political Science 201 is recommended but not required. Open only to seniors. Prerequisite: consent of the instructor. 3 s.h. (w) PROFESSOR CONNERY

DEPARTMENTAL MAJOR

Prerequisite: Political Science 11-12 or 61-62 or 63-64.

Major Requirements: Eighteen semester hours of work in the Department above courses 11-12 or 61-62 or 63-64, including at least nine semester hours in Senior-Graduate courses.

Related Work: Six hours each in two departments approved by the Political Science adviser. Courses may not be those primarily open to freshmen. Usually related work is taken in the Departments of History, Economics, Sociology, or Philosophy.

PSYCHOLOGY

PROFESSOR RODNICK, CHAIRMAN; ASSOCIATE PROFESSOR GARMEZY, DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSORS ADAMS, DAI, KOCH, KUDER, LUNDHOLM, AND ZENER; ASSOCIATE PROFESSORS BANHAM, COHEN, KIMBLE, AND LODGE; ASSISTANT PROFESSORS BORSTELMANN, COLLIER, GUTTMAN, JONES, MCHUGH, PARSONS, AND REICHENBERG-HACKETT; VISITING ASSISTANT PROFESSOR KALISH

Three or six semester hours in psychology may be used to meet the Social Science and History requirement for the A.B. Degree. The courses which will meet the requirement are: Psychology 91 or Psychology 91 plus either Psychology 100 or 101.

Psychology 91 or its equivalent is a prerequisite for all other courses in psychology. Six semester hours in psychology (including Psychology 91) or special permission of the course instructor or the director of undergraduate studies are required for admission to Psychology 144, 145, 148, 206, 212, 215, 229, 230, and 236.

91. INTRODUCTORY PSYCHOLOGY.—An introduction to the facts, principles, and problems of normal adult psychology through a study of psychological methods as applied to motivation, emotions, perception, sensation, thinking, memory, learning, individual differences, and personality. 3 s.h. (E & W) STAFF
[Offered both semesters]

100. PERSONALITY AND SOCIAL BEHAVIOR.—A survey of basic psychological principles underlying the study of personality in relation to the social environment. Among the topics discussed are theories of personality, the process of socialization of the individual, factors influencing adjustment to the social environment, the interaction of culture and personality. 3 s.h. (E)
ASSISTANT PROFESSORS JONES AND REICHENBERG-HACKETT

101. INTRODUCTORY SOCIAL PSYCHOLOGY.—A survey of problems, concepts and methods in the study of social relations and group behavior. Topics to be discussed include: socio-cultural factors in the development of motives, values, and attitudes; psychological factors underlying the development of group opinions; the study of small-group behavior with emphasis on social influences and communication; prejudice and stereotypy. 3 s.h. (E & W)
PROFESSOR ADAMS, ASSISTANT PROFESSORS JONES AND MCHUGH

104. COMPARATIVE PSYCHOLOGY.—An examination of the bearing upon general psychological theory of experimental investigations of animal behavior in the fields of motivation and learning. 3 s.h. (E)
[Not offered 1955-56]

106. ABNORMAL PSYCHOLOGY.—A systematic presentation of the psychology of functional mental disorders with emphasis on its bearing upon general psychological theory. 3 s.h. (E)
PROFESSOR LUNDHOLM

110. APPLIED PSYCHOLOGY.—Applications of psychology to problems of personnel selection, industrial efficiency, advertising and selling, and other problems of practical interest. 3 s.h. (E)
ASSISTANT PROFESSOR MCHUGH

111. ADVANCED GENERAL PSYCHOLOGY.—A more intensive study of several selected problem areas in the field of general psychology with special emphasis on experimental methods and findings in the areas considered. 3 s.h. (E)
[Not offered 1955-56]

116. PSYCHOLOGY OF ADJUSTMENT.—The course is planned to give an adequate understanding of problems of adjustment and of mental hygiene. Lectures and discussions cover an application of the principles and findings of normal and abnormal psychology as these relate to the adjustment of the average individual in our changing society; a survey of the principles of mental hygiene; discussions of current socio-cultural trends significant for individual adjustment. 3 s.h. (E)
ASSISTANT PROFESSOR REICHENBERG-HACKETT

Not open to students who have had Education 68.

117-118. EXPERIMENTAL AND STATISTICAL METHODS IN PSYCHOLOGY.—Study of the procedures and methods of psychological investigation through emphasis on human and animal experimentation in such areas as learning, motivation and perception. Instruction in elementary statistical techniques and their application to the analysis and interpretation of psychological data. Experiments are arranged in a sequence of increasing complexity with respect to subject matter, experimental design and statistical methods. Laboratory and lectures. 8 s.h. (E)

ASSISTANT PROFESSOR GUTTMAN

121. CHILD PSYCHOLOGY.—A detailed study of the practical problems of infancy and early childhood, with special emphasis upon learning, emotional development, social adjustment, and modern conceptions and methods of child training and guidance. 3 s.h. (E)

ASSISTANT PROFESSOR McHUGH

Not open to students who have had Education 118.

122. ADJUSTMENT OF THE PRE-SCHOOL CHILD.—Study and application of techniques of observing, recording and interpreting the behavior of the pre-school child. The course is designed to meet the needs of students interested in the personality development and social adjustment of children; to train them in techniques of observing and interpreting the physical, emotional, and intellectual development of the individual child; the role of each child within the social structure of a play group, and a study of the development of group integration. One hour lecture and 4 hours laboratory. Permission of the instructor or the Director of Undergraduate Studies. 3 s.h. (E).

ASSISTANT PROFESSOR REICHENBERG-HACKETT

126. ADOLESCENT PSYCHOLOGY.—The mental, social, and emotional development of adolescence and youth will be studied, with special attention given to such topics as interests, motivations, home problems, sex differences, recreation, delinquency, and development for citizenship. Prerequisite: Psychology 121 or Education 118. 3 s.h. (E)

ASSISTANT PROFESSOR McHUGH

130. PRINCIPLES AND METHODS OF PSYCHOLOGICAL EVALUATION.—This is an introductory course in test methods used by psychologists in measuring and evaluating mental processes. The nature, purposes and utilization of various types of tests and psychological techniques will be discussed and demonstrated. Among the tests to be studied will be standard scales of intelligence, verbal and performance, individual and group methods; tests of special abilities, aptitudes, attitudes and interests; personality tests, rating scales and projective methods. 3 s.h. (E)

ASSOCIATE PROFESSOR BANHAM

132. THE PSYCHOLOGY OF INDIVIDUAL DIFFERENCES.—A study of the nature and causes of individual and group variations in intelligence, special abilities, social and emotional characteristics. These will be considered in relation to developmental sequence, aging factors, sex, race and socio-economic conditions. 3 s.h. (E)

ASSOCIATE PROFESSOR BANHAM

141. PERSONALITY AND BEHAVIOR DISORDER.—Behavior disorder studied from the viewpoint of the psychological principles underlying the adjustment of the deviant personality. 3 s.h. (E)

PROFESSOR RODNICK

144. LEARNING AND MOTIVATION.—A survey of the basic facts and principles of human and animal learning and motivation. Topics covered include conditioning, trial and error learning, insightful learning, primary and secondary motivation, the relationship between motivation and learning and cultural variations in motives. Students in the course will perform a series of representative experiments. Prerequisite: 6 s.h. in psychology or special permission of the instructor or the director of undergraduate studies. 3 s.h. (E)

ASSOCIATE PROFESSOR KIMBLE

145. EXPERIMENTAL APPROACHES TO PERSONALITY.—A survey of psychological studies related to anxiety, conflict and frustration behavior and their implications for personality organization and development. Students will perform a series of representative experiments. Prerequisite: 6 s.h. in psychology or special permission of the instructor or the director of undergraduate studies. 3 s.h. (E)

ASSOCIATE PROFESSOR GARMEZY

146. EXPERIMENTAL PSYCHOLOGY IN INDUSTRY AND ENGINEERING.

—Applications of psychological principles to the solution of problems in industry and engineering. Topics covered include visual and auditory communication, visibility and legibility, visual display, control design, machine design, motivational and learning factors influencing production. Representative studies will be reviewed. Students in the course will perform several pertinent experiments. 3 s.h. (E)
[Not offered 1955-56]

ASSISTANT PROFESSOR COLLIER

148. PSYCHOLOGY OF PERCEPTION AND THINKING.—A study of the basic phenomena of perception and thinking as determined by the stimulus situation, motivation, learning and personality variables. Students will perform a series of representative experiments. Prerequisites: 6 s.h. in psychology or special permission of the instructor or the director of undergraduate studies. 3 s.h. (E)

PROFESSOR ZENER

203. PURPOSIVE PSYCHOLOGY: CONATION AND OUR CONSCIOUS LIFE.

—A systematic presentation of the psychology of adult human achievements, adaptive as well as creative, with emphasis upon the significance for these endeavors of the acts of experiencing. 3 s.h. (E)

PROFESSOR LUNDHOLM

206. SOCIAL PSYCHOLOGY.—A study of the constitution of society by man and of man by society. An analysis of social-psychological phenomena, such as: kinds of membership character, social movements, status and role-taking behavior, social determinants of perception and personality development and perceptual determinants of societies. Prerequisite: 6 s.h. in psychology or special permission of the instructor or the director of undergraduate studies. 3 s.h. (E)

PROFESSOR ADAMS

212. PHYSIOLOGICAL PSYCHOLOGY.—A survey of the interrelationships of biological and psychological factors in behavior, with particular reference to reflex action, motivation, learning and emotion. Emphasis will be placed on the relation between psychological theories and biological data. Presupposes Introductory Zoology or its equivalent. Prerequisite: 6 s.h. in psychology or special permission of the instructor or the director of undergraduate studies. 3 s.h. (E)

ASSISTANT PROFESSOR GUTTMAN

215. DEVELOPMENTAL PSYCHOLOGY.—Theory of personality structure and the changes it undergoes in development from infancy to old age, learning, conflict, character, intelligence, developmental crises, etc.; evaluation of researches on personality dynamics. Prerequisite: 6 s.h. in psychology or special permission of the instructor or the director of undergraduate studies. 3 s.h. (E)

PROFESSOR ADAMS

223. ABNORMAL PSYCHOLOGY.—A systematic presentation of the psychology of functional mental disorders with emphasis on its bearing upon general psychological theory. This course constitutes a slightly more technical survey of the same topic matter as Psychology 106. Seniors who have taken Psychology 106 are not eligible for Psychology 223. 3 s.h. (E)

PROFESSOR LUNDHOLM

229, 230. INTRODUCTION TO RESEARCH.—Restricted to senior psychology majors with at least a "B" average in psychology who have completed Psychology 117-118 and one course from among 144, 145, and 148. Before registration an outline of the project must be submitted for written approval by a departmental committee and by the staff member to whom it assigns the supervision of the research. (E)

ASSOCIATE PROFESSORS KIMBLE AND GARMEZY AND STAFF

236. THEORETICAL PSYCHOLOGY.—This course will be devoted to the analysis of techniques of theory construction in psychology. The discussion of these methodological issues will be coordinated with the analysis of concrete formulations in contemporary psychological theory. Prerequisite: 6 s.h. in psychology or special permission of the instructor or the director of undergraduate studies. 3 s.h. (E)

PROFESSOR KOCH

242 and Education 242. MEASUREMENT OF APTITUDES, INTEREST AND ACHIEVEMENT.—A study of the theories and principles of psychological measurement as applied to aptitude, interest and achievement testing. Prerequisite: 12 hours of psychology or educational psychology (6 hours of which may be taken concurrently). 3 s.h.

PROFESSOR KUDER

DEPARTMENTAL MAJOR

Prerequisite: Psychology 91 or equivalent.

Major Requirements: 24 semester hours in psychology including: Psychology 91, 117-118; at least one course selected from Psychology 144, 145, and 148; at least one 200 level course.

Related Work: 18 semester hours of related work which usually includes courses in zoology and sociology or anthropology. Additional selected courses in chemistry, economics, education, mathematics, philosophy and physics which may meet the minor requirement must have the approval of the director of undergraduate studies.

RELIGION

PROFESSOR MYERS, CHAIRMAN; ASSOCIATE PROFESSOR PHILLIPS, DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR PRICE, SUPERVISOR OF FRESHMAN INSTRUCTION;
PROFESSOR CRUM; ASSISTANT PROFESSORS BRADLEY, MANSCHRECK,
AND SALES; DR. BENNETT; MESSRS. DANIELS AND OSBORN

The uniform course requirements in Religion may be fulfilled by completing six semester hours in any of the following courses: 1, 2, 51, 52, 91, 94, 101, 103, 104, 114, 130, 132, 135, 181, 182.

Specific prerequisites are indicated in the descriptions of some courses. Where prerequisites are stated in terms of Bible hours, any one of the following will satisfy a 3 semester hour prerequisite and any two, a 6 semester hour prerequisite: 1, 2, 51, 52, 101, 103, 104, 114.

1. THE ENGLISH BIBLE.—A survey of the contents of the Old Testament books in the light of their origin in the history and religion of the Hebrew people. 3 s.h. (E & W) PROFESSOR CRUM; ASSISTANT PROFESSORS MANSCHRECK AND PRICE;
DR. BENNETT; MESSRS. DANIELS AND OSBORN

2. THE ENGLISH BIBLE.—A study of the personalities and literature of the New Testament against their Jewish, Hellenistic and Roman background. Although Religion 1 is not a prerequisite, it will be an aid to the student to complete 1 before taking 2. 3 s.h. (E & W)
ASSOCIATE PROFESSOR PHILLIPS; ASSISTANT PROFESSORS MANSCHRECK
AND PRICE; DR. BENNETT; MESSRS. DANIELS AND OSBORN

51. THE ENGLISH BIBLE.—An introductory course in the Old Testament for sophomores and juniors. (See description of Religion 1.) Students may not receive credit for both 51 and 1. 3 s.h. (E & W)
PROFESSOR MYERS; ASSISTANT PROFESSORS BRADLEY, MANSCHRECK, PRICE
AND SALES; MESSRS. DANIELS AND OSBORN

52. THE ENGLISH BIBLE.—A survey course in New Testament life and literature for sophomores and juniors. (See description of Religion 2.) It will be to the advantage of the student to take Religion 1 or 51 before taking 52. Students may not receive credit for both 52 and 2. 3 s.h. (E & W)
PROFESSOR MYERS; ASSOCIATE PROFESSOR PHILLIPS; ASSISTANT
PROFESSORS BRADLEY, MANSCHRECK, AND SALES;
MESSRS. DANIELS AND OSBORN

91. AN INTRODUCTION TO CHRISTIAN ETHICS.—A study of the theistic interpretation of man's moral experience, based upon the world-view of the Bible, as contrasted with other classical and contemporary moral philosophies. In the survey of the ethical religion of the Bible special attention is given to the Hebrew prophets, to Jesus and the Apostle Paul. 3 s.h. (W) ASSISTANT PROFESSOR PRICE

94. THE BEGINNINGS OF THE CHRISTIAN CHURCH.—A study of the development of Christianity in the first two hundred years. Special emphasis will be given to the work of Paul, the later New Testament writings, the *Apostolic Fathers* and the early Apologists. Prerequisite: Religion 2 or 52. 3 s.h. (W)
ASSISTANT PROFESSOR SALES

101. THE SOCIAL TEACHINGS OF THE PROPHETS AND JESUS.—A study of the social teachings of the Old Testament prophets and of the social ideas of Jesus as they appear in the four gospels. Not open for credit to students who take Religion 103 or 114. Either semester. 3 s.h. (w) ASSOCIATE PROFESSOR PHILLIPS

103. THE PROPHETS OF THE OLD TESTAMENT.—In this course a study is made of the history and nature of prophecy, with particular attention being given to the messages of the outstanding pre-exilic literary prophets. Students may not receive credit for both 103 and 107 or 103 and 101. 3 s.h. (E & w)

PROFESSOR MYERS; ASSISTANT PROFESSOR SALES

104. JUDAISM FROM THE EXILE TO THE FALL OF JERUSALEM IN 135 A.D.—A study of post-exilic Judaism: the prophetic and apocalyptic developments of normative Judaism. 3 s.h. (w) ASSISTANT PROFESSOR SALES

107. THE GREAT PROPHETS OF ISRAEL.—Special consideration will be given to the times and messages of Amos, Hosea, Isaiah, Jeremiah and Ezekiel. An effort will be made to appraise their contributions to literature, ethics, and faith. Some attention will be given to the relevance of prophetic religion for the present. Prerequisites: Religion 1, 2 or 51, 52 or equivalent. Students may not receive credit for both 103 and 107. 3 s.h.

PROFESSORS MYERS

114. THE LIFE AND TEACHINGS OF JESUS.—This course considers the period in which Jesus lived, the record of his life, and the meaning of his teachings as recorded in the Synoptic Gospels. Students may not receive credit for 114 and 101; or 114 and 116. 3 s.h. (E & w)

PROFESSOR MYERS; ASSISTANT PROFESSORS

BRADLEY AND PRICE

116. THE MISSION AND MESSAGE OF JESUS.—An intensive study analyzing and interpreting the Gospel records of Jesus' career, with emphasis upon their significance for the Christian religion. Students will be expected to select and make reports on particular projects. Prerequisites: Religion 1, 2 or 51, 52 or equivalent. Students may not receive credit for both 114 and 116. 3 s.h. (w)

ASSISTANT PROFESSOR PRICE

130. CHRISTIAN ETHICS IN HISTORY AND MODERN LIFE.—A historical study of how Christians from New Testament times to the present have interpreted and expressed their ethical convictions. The aim of the course will be to provide historical depth for evaluating contemporary ethical issues. Prerequisite: Religion 91 or 3 s.h. of Bible. 3 s.h.

ASSISTANT PROFESSOR MANSCHRECK

132. THE CHRISTIAN AND CONTEMPORARY SOCIAL PROBLEMS.—A critique of some basic ideas of modern man as they affect ethical decisions. Special consideration will be given to problems of the social and economic structures of society, war and race. The aim of the course will be to encourage personal evaluation—using pertinent Biblical teachings and the views of contemporary writers as a basis for judgment. Prerequisite: Religion 91 or 3 s.h. of Bible. 3 s.h.

ASSOCIATE PROFESSOR PHILLIPS; ASSISTANT

PROFESSORS MANSCHRECK AND PRICE

134. CONTEMPORARY RELIGIONS IN THE UNITED STATES.—A study of Judaism, Catholicism and Protestantism with reference to each faith's distinctive beliefs and practices; and a comparison of common and dissimilar features. 3 s.h. (w)

ASSOCIATE PROFESSOR PHILLIPS

135. CHRISTIAN BIOGRAPHY.—A study of Christianity in the lives and writings of a few key persons, for example, Augustine, Francis of Assisi, Luther, and Wesley. The aim of the course is to present the central stream of the development of Christian thought and practice through the study of men who were significant in their own times and whose ideas are relevant to an understanding of current Christianity. Prerequisite: 3 s.h. of Bible. 3 s.h.

ASSISTANT PROFESSOR MANSCHRECK

169. CHARACTER PROBLEMS.—The psychology of adolescence and the problems of youth in character building, with attention to the character education agencies in local communities. 3 s.h. (E & w)

PROFESSOR CRUM

170. RELIGION AND THE FAMILY.—A study of marriage and American home life with emphasis upon ethical and religious aspects. Not open to students who take Sociology 250. 3 s.h. (E & W) PROFESSOR CRUM

181. THE RELIGIOUS ENVIRONMENT OF THE BIBLICAL WORLD.—After a brief introduction to the nature and early development of religion, the history and literature of the religions of the ancient Near East are surveyed. Special attention is given to the cultures of Egypt, Mesopotamia, Babylonia, Persia, Palestine, and Greece. 3 s.h. ASSISTANT PROFESSOR BRADLEY

182. SURVEY OF THE WORLD'S GREAT RELIGIONS.—The world's living religions are dealt with in terms of the historical development and the beliefs, practices and contemporary significance of each. Prerequisite: 3 s.h. of Bible. 3 s.h. ASSISTANT PROFESSOR BRADLEY

185. THE NEGRO IN THE RELIGIOUS LIFE OF AMERICA.—An examination of the ways in which the Christian Church has attempted to apply the Christian ethic to race relations with attention to the ethical aspects of these relations in American life and culture. 3 s.h. PROFESSOR CRUM

192. CHRISTIAN BELIEFS.—An introductory study of the nature, significance and contemporary relevance of some of the important Christian beliefs. Prerequisite: 3 semester hours of Bible. 3 s.h. (E) ASSISTANT PROFESSOR BRADLEY

The following courses offered in the Divinity School may be taken by undergraduates:

103 (DS)-104 (DS). HELLENISTIC GREEK.—Designed for beginners to enable them to read the Greek of the New Testament. 6 s.h. MR. EDWARDS

201 (DS)-202 (DS). FIRST HEBREW.—The principles and structure of the Hebrew language with translation of selected Old Testament narratives. 6 s.h. PROFESSOR STINESPRING

207 (DS)-208 (DS). SECOND HEBREW.—Samuel or Kings the first semester and Isaiah the second. 6 s.h. DR. CHAMBERLAIN

DEPARTMENTAL MAJOR

Prerequisite: Religion 1-2 or 51-52.

Major Requirements: A major in the Department of Religion consists of 18 semester hours of work, exclusive of the introductory course, selected with the approval of the instructor under whose supervision the student does his major work. Six of the 18 semester hours must be in courses with biblical content.

Related Work: This is usually twenty-four semester hours, in courses that relate to the educational needs of the student. In general, it includes six semester hours in philosophy, psychology, and sociology. Other courses may be chosen from the offerings in art, education, English literature, health education, Greek, history, Latin and political science.

ROMANCE LANGUAGES

PROFESSOR JORDAN, CHAIRMAN; ASSOCIATE PROFESSOR DOW, DIRECTOR OF UNDERGRADUATE STUDIES IN FRENCH; PROFESSOR DAVIS, DIRECTOR OF UNDERGRADUATE STUDIES IN SPANISH; ASSISTANT PROFESSOR CORDLE, SUPERVISOR OF FRESHMAN STUDIES IN FRENCH; ASSISTANT PROFESSOR FEIN, SUPERVISOR OF FRESHMAN STUDIES IN SPANISH; PROFESSORS FREDMORE AND WALTON; ASSOCIATE PROFESSORS ARCHIE, CASTELLANO AND DEMOREST; ASSISTANT PROFESSORS TORRE AND VINCENT; DR. GRANT; MR. BEEBE, MRS. CASTELLANO, MRS. DOW, MR. PRATT, MR. WATKINS AND MRS. WHITAKER; MRS. BRYAN, MR. GIDEL AND MR. THOMPSON

French 51-52 and Spanish 65-66 are the prerequisites for all elective courses. Some preparation in courses of the 100 level is prerequisite to election of courses above 200, except by special authorization of the department.

Students who, by reason of foreign residence, have had special opportunities in French or Spanish must be classified by the Director of Undergraduate Studies.

FRENCH

1-2. **ELEMENTARY FRENCH.**—Essentials of grammar, reading of appropriate material, drill in the spoken language. 6 s.h. (W & E) DR. GRANT AND STAFF

3-4. **INTERMEDIATE FRENCH.**—Readings in standard literary texts, review of verbs and syntax, oral exercises based on the reading texts. Prerequisite: French 1 and 2 or two years of high-school French. 6 s.h. (W & E)

ASSOCIATE PROFESSOR DOW AND STAFF

51-52. **INTRODUCTION TO FRENCH LITERATURE.**—Reading of representative modern and contemporary literary texts. Study of the language with stress on the achievement of oral comprehension and ability to read. Prerequisite: French 3-4 or equivalent. 6 s.h. (W & E)

PROFESSOR WALTON AND STAFF

55. **INTERMEDIATE CONVERSATION.**—To be taken concurrently with French 51, except by departmental permission. Enrollment limited to 10 students per section. Recommended for prospective French majors. Mrs. Dow

56. **INTERMEDIATE CONVERSATION.**—Prerequisite: French 55. To be taken concurrently with French 52. 1 s.h. (E) Mrs. Dow

108. **THE FRENCH ROMANTIC MOVEMENT.**—The impact of the modern world on the French thinkers and great poets of the early nineteenth century. Readings from Rousseau; the eyewitness testimony of Chateaubriand; the lyric poetry of Lamartine, Vigny, Musset, and Hugo. 3 s.h. DR. GRANT

111. **FRENCH DRAMA OF THE NINETEENTH CENTURY.**—A survey of the French theater from the romantic period to the *Théâtre libre*. 3 s.h. (E)

ASSOCIATE PROFESSOR DOW

112. **FRENCH DRAMA OF THE TWENTIETH CENTURY.**—Reading of representative plays selected from the works of Bernstein, Maeterlinck, Rostand, Sarmont, Vildrac, J.-J. Bernard, Claudel, Lenormand, Pagnol, Giraudoux, and Anouilh. 3 s.h. (E)

ASSOCIATE PROFESSOR DOW

125. **LIBERAL THINKERS OF THE EIGHTEENTH CENTURY.**—Selected works of such authors as Diderot, Montesquieu, Rousseau, and Voltaire will be studied from the point of view of their impact upon the social and political thinking of the day. 3 s.h. (W)

ASSOCIATE PROFESSOR ARCHIE

127-128. **ADVANCED COMPOSITION AND CONVERSATION.**—During the first semester elements of syntax are briefly reviewed, along with constant drill in the conversational idiom. In the second semester, there are exercises in free composition, with intensified treatment of pronunciation and diction. 6 s.h. (E)

Mrs. Dow

134. **CONTEMPORARY FRENCH LIFE AND THOUGHT.**—An introduction to the essential currents in French thought since 1885. Representative literary works are used as a basis for analysis and discussion of the contemporary scene. 3 s.h. (W)

ASSISTANT PROFESSOR CORLE

210. **THE AGE OF RICHELIEU.**—An introduction to French life and thought in the literature of the early seventeenth century. The transition from the Renaissance to classical culture. Discussions of the baroque, the *Libertins*, the scientific rationalists, the Counter Reformation. Extensive reading in Corneille and Pascal. Lectures in French. 3 s.h. (E)

ASSOCIATE PROFESSOR DEMOREST

213. **FRENCH CLASSICISM.**—Its initial phase. Readings from Malherbe, Molière, Racine, Boileau, La Fontaine, La Rochefoucauld, Madame de Sévigné, La Bruyère, and others. 3 s.h. (E)

PROFESSOR WALTON

214. **FRENCH CLASSICISM.**—Its final phase. Readings from Fontenelle, Saint-Simon, Abbé Prévost, Marivaux, Lesage, Montesquieu, Voltaire, and others. 3 s.h.

PROFESSOR WALTON

215, 216. THE MODERN FRENCH NOVEL.—A survey of the novel form from the seventeenth to the twentieth century, with particular attention to the analysis of fundamental literary tendencies; classicism, rationalism, romanticism, and realism. 6 s.h. (E) PROFESSOR JORDAN

225. POLITICAL AND RELIGIOUS LITERATURE IN THE ROMANTIC PERIOD.—The Romantic outlook as it shapes political and religious literature from the Consulate to the Revolution of 1848. The mystics of conservatism, the prophets of a Romantic faith, and the heralds of a social republic. Lectures in French. 3 s.h. ASSOCIATE PROFESSOR DEMOREST

227. FRENCH POETRY SINCE THÉOPHILE GAUTIER.—Readings from the principal figures of the Parnassian and Symbolist movements, including Baudelaire, Leconte de Lisle, Heredia, Verlaine, Rimbaud, Mallarmé, Régnier. 3 s.h. (E) PROFESSOR WALTON

238. ANATOLE FRANCE.—Analysis of the principal phases of his work and its relation to the French tradition. Reading of his poetry, *Le Crime de Sylvestre Bonnard*, *Thaïs*, *Le Jardin d'Epicure*, *Les Dieux ont soif*, *Le Lys Rouge*, *L'Île des Pingouins*, part of *La Vie Littéraire*. 3 s.h. (E) PROFESSOR WALTON

SPANISH

1-2. ELEMENTARY SPANISH.—Essentials of grammar, reading of appropriate materials, drill in the spoken language. 6 s.h. (W & E) ASSISTANT PROFESSOR FEIN AND STAFF

3-4. INTERMEDIATE SPANISH.—Readings in standard literary texts, review of verbs and syntax, oral exercises based on the reading texts. Prerequisite: Spanish 1 and 2 or two years of high-school Spanish. 6 s.h. (W & E) PROFESSOR PREDMORE AND STAFF

65-66. INTRODUCTION TO SPANISH LITERATURE.—Reading of representative modern and contemporary literary texts. Study of the language with stress on the achievement of oral comprehension and ability to read. Prerequisite: Spanish 3-4 or equivalent. 6 s.h. (W & E) ASSOCIATE PROFESSOR CASTELLANO AND STAFF

68. INTRODUCTION TO SPANISH-AMERICAN LITERATURE.—Reading of selected modern novels typical of Spanish-American life, culture, and thought. This course is offered sometimes as an alternate to Spanish 66 and is accepted in fulfillment of major and graduation requirements. 3 s.h. (W & E) ASSOCIATE PROFESSOR CASTELLANO AND STAFF

71. INTERMEDIATE CONVERSATION.—To be taken concurrently with Spanish 65, except by departmental permission. Enrollment limited to 10 students per section. Recommended for prospective Spanish majors. 1 s.h. (E) MRS. CASTELLANO

72. INTERMEDIATE CONVERSATION.—Prerequisite: Spanish 71. To be taken concurrently with Spanish 66 or 68. 1 s.h. (E) MRS. CASTELLANO

155. REPRESENTATIVE WRITERS OF SPANISH AMERICAN LITERATURE.—Reading and discussion of major works which illustrate literary trends from the early Colonial period to 1880. 3 s.h. (E) ASSISTANT PROFESSOR FEIN

156. REPRESENTATIVE WRITERS OF SPANISH AMERICAN LITERATURE.—Study of works which are examples of the principal literary currents after 1880, with particular reference to their relationship to social ideas and problems in the same period. 3 s.h. (E) ASSISTANT PROFESSOR FEIN

161. SPANISH LITERATURE: OLDER PERIOD.—Reading and interpretation of representative Spanish writers from the beginnings through the Golden Age. 3 s.h. (E) PROFESSOR DAVIS

162. SPANISH LITERATURE: MODERN PERIOD.—Reading and interpretation of representative writers from Romanticism to the present. 3 s.h. (E) ASSISTANT PROFESSOR TORRE

173. ADVANCED CONVERSATION.—One hour a week will be devoted to a review of the elements of syntax. The remainder of the course aims to develop facility of expression through constant drill on vocabulary and conversational idiom. Prerequisite: Spanish 66 (or 68) and 71-72, or permission. 3 s.h. (E)

ASSOCIATE PROFESSOR CASTELLANO

174. PHONETICS AND DICTION.—This course is intended to round out the students' oral experience, with emphasis on accurate pronunciation. Use is made of phonographic demonstrations and corrective exercises, with individual recordings. Prerequisite: Spanish 173, or permission. 3 s.h. (E) ASSOCIATE PROFESSOR CASTELLANO

257. OLD SPANISH LANGUAGE.—The historical development of the language together with illustrative readings. 3 s.h. (E) PROFESSOR DAVIS

258. OLD SPANISH LITERATURE.—The literature of the Middle Ages and the early Renaissance. 3 s.h. (E) PROFESSOR DAVIS

260. ADVANCED COMPOSITION AND SYNTAX.—Study of fundamental difficulties in the language; practice in writing idiomatic Spanish; exercises in free composition. For students who have a satisfactory command of Spanish grammar and fair conversational ability. Prerequisites: Spanish 173-174, or permission 3 s.h. (E) ASSOCIATE PROFESSOR CASTELLANO

261. NINETEENTH CENTURY NOVEL.—A study of literary and social trends in the last half of the nineteenth century. Readings will be selected from the novels of Valera, Pereda, Galdós, Pardo-Bazán, Blasco Ibáñez, and their contemporaries. 3 s.h. (E) PROFESSOR DAVIS

264. MODERN AND CONTEMPORARY SPANISH THEATRE.—A brief review of the modern and contemporary Spanish theatre from the period of Romanticism. Lectures, reading, and discussion of the most representative works of Benavente, Martínez Sierra, los hermanos Quintero, etc. 3 s.h. (E)

ASSOCIATE PROFESSOR CASTELLANO

265. GOLDEN AGE LITERATURE: CERVANTES.—The life and thought of Cervantes with special emphasis on his *Quijote*. 3 s.h. (E) PROFESSOR PREDMORE

266. GOLDEN AGE LITERATURE: THE DRAMA.—Study of the chief Spanish dramatists of the seventeenth century with readings of representative plays of this period. 3 s.h. (E) ASSOCIATE PROFESSOR CASTELLANO

270. THE SPANISH LANGUAGE IN AMERICA.—Development of the Spanish language from the time of the Discovery to the present. 3 s.h. PROFESSOR PREDMORE

275. CONTEMPORARY SPANISH LITERATURE. ESSAY AND LYRIC POETRY.—A study of the revision of national values and literary expression in the twentieth century with particular reference to the crisis of 1898 and to the enrichment of the Spanish tradition through extrapeninsular influences. 3 s.h. (E)

PROFESSOR PREDMORE

276. CONTEMPORARY SPANISH LITERATURE: NOVEL.—A study of tradition and innovation in the twentieth century Spanish novel and emphasis on the novels of Unamuno, Baroja, Valle Inclán, and Pérez de Ayala. 3 s.h. (E)

PROFESSOR PREDMORE

THE TEACHING OF ROMANCE LANGUAGES

RL 118. THE TEACHING OF ROMANCE LANGUAGES.—Evaluation of objectives and methods; a study of the practical problems involved in the teaching of reading, writing, hearing, and speaking; analysis of text books, special foreign language programs, teaching aids, and testing techniques. 3 s.h. (E)

ASSOCIATE PROFESSOR DOW

DUKE UNIVERSITY
DEPARTMENTAL MAJOR

Prerequisites:

For French: French 51-52 (combined with 55-56), or equivalent.

For Spanish: Spanish 65-66 (combined with 71-72), or equivalent.

Major Requirements:

For French: Eighteen semester hours of work must be completed in courses numbered above 100 and must include: (a) six semester hours in course 127-128; (b) six semester hours of literature in courses 210 to 238.

For Spanish: Eighteen semester hours of work must be completed in courses numbered above 100 and must include: (a) six semester hours of linguistic training (courses 173-174, 260); (b) six semester hours of literature in the courses numbered above 200.

RELATED WORK

Majors in Romance Languages will normally take the prescribed amount of related work in the following fields: (1) other foreign languages and literature; (2) aesthetics; (3) history and appreciation courses in music and art; (4) philosophy; (5) general psychology; (6) history; (7) general sociology and anthropology.

Majors in Spanish may take a maximum of six hours of Spanish American political science or economics if taken with or after Spanish 155-156.

RUSSIAN

ASSISTANT PROFESSOR WINNER

51-52. INTRODUCTION TO THE RUSSIAN LANGUAGE.—Open to freshmen with the approval of the Dean. 6 s.h. (w) ASSISTANT PROFESSOR WINNER

53-54. INTERMEDIATE RUSSIAN LANGUAGE.—Prerequisite: Russian 51-52 or equivalent. 6 s.h. (ε) ASSISTANT PROFESSOR WINNER

63-64. INTRODUCTION TO SCIENTIFIC AND MEDICAL RUSSIAN.—Introduction to the Russian language as used in the various contemporary sciences. Prerequisite: Russian 51-52 or equivalent. 6 s.h. (w) ASSISTANT PROFESSOR WINNER
[Not offered in 1955-56]

101, 102. RUSSIAN CULTURE AND LITERATURE THROUGH THE NINETEENTH CENTURY.—After a brief survey from earliest times through eighteenth-century classicism, enlightenment, and sentimentalism, attention is focused on the literature of the nineteenth century, and the development of romanticism and of the realistic school. Special attention is given to the works of Pushkin, Lermontov, Gogol, Goncharov, Turgenev, Tolstoi, Dostoevski, and Gorki. Readings are assigned in English translation. 6 s.h. (w) ASSISTANT PROFESSOR WINNER

103. AN INTRODUCTION TO SOVIET LITERATURE AND CULTURE.—An analysis of the development of Russian literature and culture since the Bolshevik revolution and the effect of Soviet policy on the literary production of the time. A survey of the important literary currents from Gorki and Mayakovski through Sholokhov. Lectures and class discussion. Readings will be assigned in English translation. 3 s.h. (ε) ASSISTANT PROFESSOR WINNER
[Not offered in 1955-56]

105. HISTORY OF THE RUSSIAN THEATRE AND DRAMA.—A discussion of the most significant stages of Russian dramatic art from the earliest primitive harvest ceremonies to the development of theatrical realism and naturalism in the end of the nineteenth century and the development of the dramatic arts in the Soviet Union is combined with a study of the development of the Russian theatre, with special emphasis on such figures as Stanislavski, Meierholdt, Vakhtangov, etc. Class discussion and visual demonstrations. Readings are assigned in English translation. 3 s.h. (ε) ASSISTANT PROFESSOR WINNER

112. PUSHKIN AND THE BIRTH OF RUSSIAN REALISM.—A study of Pushkin and his contemporaries from the point of view of their relationship to the development of the Russian romantic movement and to the emergence of an independent Russian realistic approach to literature. An analysis of the influence of Western literary figures, particularly Byron, on the development of Russian letters of the early nineteenth century. Readings are assigned in English translation. Prerequisite: Russian 101 or consent of the instructor. 3 s.h. (E)

ASSISTANT PROFESSOR WINNER

SOCIOLOGY AND ANTHROPOLOGY

PROFESSOR JENSEN, CHAIRMAN; ASSOCIATE PROFESSOR SCHETTLER, DIRECTOR OF UNDERGRADUATE STUDIES, AND SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS HART AND THOMPSON; ASSOCIATE PROFESSOR LABARRE; ASSISTANT PROFESSORS WHITRIDGE AND ROY; MESSRS. HOWELL, MCNURLEN AND TUMBLIN

91-92. GENERAL SOCIOLOGY.—An introduction to the scientific study of social life; its origin, evolution and organization as illustrated in the study of a number of concrete social problems. 6 s.h. (E & W)

PROFESSOR JENSEN; ASSOCIATE PROFESSOR SCHETTLER;
ASSISTANT PROFESSORS ROY AND WHITRIDGE;
MESSRS. HOWELL, MCNURLEN AND TUMBLIN

101. GENERAL SOCIOLOGY.—A more intensive version of course 91-92, which enables the student to complete the introductory course in sociology in one semester. 5 s.h. (W)

ASSISTANT PROFESSOR ROY

I. ANTHROPOLOGY

93. GENERAL ANTHROPOLOGY.—Origins and distribution of the races of mankind; a survey of human palaeontology and human biology, world archaeology, prehistory and languages; and the origins of the family, primitive economics, arts, social and political organization. Special attention is given to primitive peoples. 3 s.h. (W)

ASSOCIATE PROFESSOR LABARRE

94. CULTURAL ANTHROPOLOGY.—A study of the dynamics of culture, the causal factors, functions, integration and disintegration, diffusion, growth and change of cultures. Emphasis is upon the simpler societies. 3 s.h. (W)

ASSOCIATE PROFESSOR LABARRE

212. PRIMITIVE RELIGION.—The ethnography, the social functions and the socio-psychological meanings of religion in primitive societies. Prerequisite: course 91-92, or 101, or 93 or 94. 3 s.h. (W)

ASSOCIATE PROFESSOR LABARRE

213. PERSONALITY AND SOCIETY.—The sociology and social psychology of human personality, its origins in the primary group, its nature and varieties, and its integrations into secondary group institutions, with emphasis upon the normal personality and its adjustments in our society and to our culture. Prerequisite: course 91-92, or 101, or 93 or 94. 3 s.h. (W)

ASSOCIATE PROFESSOR LABARRE

[Admission only by consultation with the instructor.]

214. PERSONALITY AND CULTURE.—The influence of culture patterns and social institutions on character structure, socialization of the individual and the dynamics of human personality. Comparative anthropological materials will be drawn upon. Prerequisite: course 213. 3 s.h. (W)

ASSOCIATE PROFESSOR LABARRE

[Admission only by consultation with the instructor.]

215. THE AMERICAN INDIAN.—A comprehensive survey of the Indians of North and South America, including a study of origins and prehistory, archaeology, physical anthropology, languages, material culture, social and political organization, economics and religion, discussed in terms of the "culture area" concept, and illustrated with the ethnography of a characteristic tribe from each area. 3 s.h. (W)

ASSOCIATE PROFESSOR LABARRE

[Not offered in 1955-56]

217. THE PEOPLES OF AFRICA, ASIA, AND OCEANIA.—A comprehensive survey of non-European peoples of the Old World, covering available prehistory, archaeology, racial affiliations, languages, material culture, social and political organization, economics and religion, discussed in terms of the "cultural area" concept, and illustrated with the ethnography of a characteristic tribe from each area. 3 s.h. (w) ASSOCIATE PROFESSOR LABARRE

II. COMMUNITY, RACE AND CULTURE

(Courses 91-92, or 101, or 93, or 94 prerequisite for all courses.)

133. SOCIOLOGY OF THE SOUTH.—The developing regional organization of the world economy studied with especial reference to Southern life and problems. A survey of the composition and distribution of population, races and race relations; economic conditions underlying population, race factors and culture of the South. Primary emphasis is upon social change and its control. 3 s.h. (w) PROFESSOR THOMPSON

134. HUMAN ECOLOGY.—A study of the human community in its competitive and cooperative aspects. 3 s.h. (w) PROFESSOR THOMPSON
[Not offered in 1955-56]

136. HUMAN MIGRATION.—A study of mankind in motion, including a consideration of the nature of migration, types of migration and settlement, and problems of migratory contacts. 3 s.h. (w) PROFESSOR THOMPSON
[Not offered in 1955-56]

137. THE NEGRO IN AMERICA.—A study of the history and changing status of the Negro regarded as a symbol and protagonist of minority groups in America and elsewhere. 3 s.h. (w) PROFESSOR THOMPSON

233. RURAL SOCIOLOGY.—The sociology of the land; peasant and folk societies and cultures; patterns of rural settlement like the farm, the plantation, the ranch and others; rural personality types; the changing character of rural life; rural problems. 3 s.h. (w) PROFESSOR THOMPSON

235. URBAN SOCIOLOGY.—A study of the city and civilization, the newspaper, the social survey, the slum and housing, neighborhoods and natural areas, urban institutions, urban problems, and city planning. 3 s.h. (w) PROFESSOR THOMPSON

237. COMMUNITY AND SOCIETY.—This course seeks to provide a frame of reference for the analysis and ordering of facts pertaining to the diverse cultures of the world, the State, the world community, the Great Society, news, mass behavior, social problems, races and classes. 3 s.h. (w) PROFESSOR THOMPSON

238. RACE AND CULTURE.—A study of the nature of race and of the relationships and problems of race. 3 s.h. (w) PROFESSOR THOMPSON

III. COLLECTIVE BEHAVIOR

(Courses 91-92, or 101, or 93 or 94 prerequisite for all courses.)

142. THE SOCIOLOGY OF DISCUSSION.—A course designed to develop practical social skills in intellectual cooperation. In the light of sociological theory of intellectual conflict, competition and cooperation, practice will be provided in the group solution of problems through committees, conferences and forums, and in the discussion processes whereby cooperation can be substituted for social antagonism. Prerequisites: either Sociology 91, 101, or 93, or 94 and six hours to be selected from history, political science, Economics 105 and 155, and Education 115 and 176. Enrollment limited to a maximum of 30. 3 s.h. (w) PROFESSOR HART

149. INTRODUCTION TO CHILD WELFARE.—A study of heredity and environment as factors in personality development; infant conservation; welfare responsibilities of the school, emphasizing the physical and mental well-being of the child, play, and compulsory and industrial education; child labor, diagnosis and treatment of delinquency; care of the dependent and neglected child; child-caring agencies, public and private; and a community program of child welfare. 3 s.h. (E) PROFESSOR HART

243. SOCIAL ATTITUDES AND COLLECTIVE BEHAVIOR.—Study of attitudes as products of social interaction; organization of attitudes into personal behavior patterns; expression of social attitudes in social, political and industrial groups; social unrest and the behavior of crowds and mobs; analysis of social movements, strikes, revolutions, and other group organizations. 3 s.h. (w)

ASSOCIATE PROFESSOR SCETTTLER

246. PUBLIC OPINION AND PROPAGANDA.—Nature and development of public opinion; relation to attitude, biases, stereotypes and controversial issues; role of leaders, pressure groups and minority groups; use of radio, press, motion picture and graphic arts; propaganda and censorship; measurements of public opinion. 3 s.h. (w)

ASSOCIATE PROFESSOR SCETTTLER

250. MARRIAGE AND THE FAMILY.—An analysis of contemporary marriage and family experience with emphasis on its functions, problems, resources and values. Not open to students who have received credit for Religion 170. 3 s.h. (w)

PROFESSOR HART

IV. SOCIAL ORGANIZATION AND DISORGANIZATION

(Courses 91-92, or 101, or 93, or 94 prerequisite for all courses.)

153. The FIELDS OF SOCIAL WORK.—A non-professional course, designed to acquaint the student with the types of problems existing in both rural and urban communities which can be dealt with in a remedial and preventive way; how they arise in the reciprocal interaction of personality and culture, what their effects are in terms of personal and social disorganization, how communities are organized to deal with them, and social agencies which have been developed to deal with problems of each type, together with an evaluation of effectiveness of the techniques employed. 3 s.h. (E)

ASSISTANT PROFESSOR WHITRIDGE

157. SOCIAL CHANGE AND SOCIAL CONTROL.—Basic nature of inventions as related to ideological and material factors; role of the inventor, reformer, and non-conformist; mobility, diversification and individualism as by-products of social change; techniques of social control in the family, school, church, industry and government; social planning and leadership in a dynamic society. 3 s.h. (w)

ASSOCIATE PROFESSOR SCETTTLER

158. SOCIOLOGY OF THE PROFESSIONS AND OCCUPATIONS.—Analysis of the professional and occupational structure of the American economy; shifts and trends in occupations and professions for men, women and minority groups; social and economic characteristics of occupational and professional groups; factors in the selection of a profession or occupation; sources of information about occupations and professions; measurements of aptitudes, abilities and skills; employer-employee relationships. 3 s.h. (w)

ASSOCIATE PROFESSOR SCETTTLER

165. INTRODUCTION TO INDUSTRIAL SOCIOLOGY.—An analysis and appraisal of the various factors that affect human relations in industry. It will deal with the interpersonal and intergroup relationships within the individual industrial unit which determine its efficiency as an economic and social institution; the social relationships of workers with one another and with management; their influence upon productivity, the relations of the worker toward the job, labor turnover, absenteeism, etc., and the social conditions in the community, housing, family life; recreation, etc., as they affect the social relations within the industrial community. 3 s.h. (w)

ASSISTANT PROFESSOR ROY

166. INDUSTRY AND SOCIETY.—A study of industrial institutions in their interrelationships with other forms of social behavior in the broad cultural setting of western civilization. The emphasis in this course will be on an examination of the influence of changes in the technical and social organization of industry upon community organization, social stratification, social mobility, social interaction, and personality development. Attention will center upon analysis of specific social problems resulting from the impact of industrial change. 3 s.h. (w)

ASSISTANT PROFESSOR ROY

262. EDUCATION AND THE CULTURAL PROCESS.—A study of education (1) as carried on traditionally among preliterate and folk peoples, and (2) as it becomes a problem in racially and culturally complex societies like that of the United States. 3 s.h. (w) PROFESSOR THOMPSON
[Not offered in 1955-56]

271. SOCIAL PATHOLOGY.—A study of the causes, extent, significance, and constructive treatment of the principal forms of pathology in modern society; poverty, physical defectiveness, malnutrition, mental deficiency, mental disease, undirected leisure activities and unstandardized commercial recreation, alcoholism, prostitution, vagrancy, and delinquency. 3 s.h. (E) PROFESSOR JENSEN

273. SPECIAL PROBLEMS IN SOCIAL PATHOLOGY.—Research projects in social and personal disorganization, limited to advanced students with the approval of the instructor. 1 to 3 s.h. *each semester*. (w) PROFESSOR JENSEN

276. CRIMINOLOGY.—A study of the original tendencies of man and the problem of socializing these tendencies; the relations of physical and mental defectiveness and untoward influence in the home and neighborhood to crime; the development of criminological theory and procedure, emphasizing penal and reform methods, and especially modern methods of social treatment and prevention of crime. 3 s.h. (E) PROFESSOR JENSEN

277. JUVENILE DELINQUENCY.—An intensive study of current research findings as to the nature, causes, extent and distribution of juvenile delinquency; individual and institutional methods of treatment and prevention; diagnostic clinics, juvenile courts and probation, training schools, coordinating councils and preventive agencies. 3 s.h.
[Not offered in 1955-56]

V. SOCIAL THEORY

(Course 91-92, or 101, or 93 or 94 prerequisite for all courses.)

286. SOCIAL ETHICS.—A study of sociological fundamentals underlying ethics, including the controversy between materialistic and idealistic social thinkers, the nature of personalities and of social organization, the nature of social values, types of social interaction and their effects upon general social values, underlying principles and facts of social change, and the bearings of all these upon certain social problems. 3 s.h. (w) PROFESSOR HART

288. CONTEMPORARY PROBLEMS IN CULTURAL LAG.—An exploration of such sociological problems as social evolution, cultural lag, conflict, accommodation, leadership, and social reform, in relation to the crisis of civilization, precipitated by the development of the atomic bomb and by kindred discoveries and inventions. 3 s.h. (w) PROFESSOR HART

VI. METHODS OF SOCIAL RESEARCH

(Course 91-92, or 101, or 93 or 94 prerequisite for all courses.)

191. PRINCIPLES OF SOCIAL CASE INVESTIGATION.—A non-professional course designed to acquaint the student with the basic research techniques employed in the case study of the interrelationships of personality and culture in various fields of sociological and anthropological interest. 3 s.h. (E) ASSISTANT PROFESSOR WHITRIDGE

193. BASIC STATISTICAL METHODS IN SOCIOLOGY.—The processes of definition, classification, measurement, tabulation, association, correlation, comparison of averages and of percentages, prediction, preparation and interpretation of tables and charts, as applied to and illustrated by sociological data. One lecture, one recitation and three laboratory hours. 3 s.h. (w) PROFESSOR HART

292. STATISTICAL TECHNIQUES IN SOCIOLOGY.—Intended for graduate students, and for undergraduates who are ready to undertake original statistical research projects. 3 s.h. (w) PROFESSOR HART

293. SPECIAL PROBLEMS IN SOCIAL STATISTICS.—Applications of statistical techniques to specific research topics. Limited to advanced students with permission of the instructor. 1 to 3 s.h. each semester. (w) PROFESSOR HART

DEPARTMENTAL MAJOR

Prerequisite: Sociology 91-92 or 101.

Major Requirements: Eighteen semester hours of work in the Department in addition to Sociology 91-92 or 101, including at least six semester hours in Senior-Graduate courses.

Related Work: A minimum of eighteen semester hours, at least twelve of which are normally chosen from two of the following fields: economics, education, history, political science and psychology. Additional courses in health and physical education, philosophy and religion may also be elected as related work when indicated by the educational requirements of the student and approved by the departmental adviser. But not more than six hours work in courses primarily open to Freshmen can be counted toward this requirement.

ZOOLOGY

PROFESSOR GRAY, CHAIRMAN; ASSOCIATE PROFESSOR ROBERTS, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR HUNTER, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS BOOKHOUT, SCHMIDT-NIELSEN AND WILBUR; ASSISTANT PROFESSORS BAILEY, HORN, NACE, ODUM, SANDEEN AND VERNBURG; DRs. JACOBS, STRASBURG AND WARD

1. ANIMAL BIOLOGY.—The principles of biology as applied to animals. 4 s.h. (w & e) ASSOCIATE PROFESSORS HUNTER AND ROBERTS AND STAFF

2. GENERAL ZOOLOGY.—A brief survey of the animal kingdom. Prerequisite: Zoology 1. 4 s.h. (w & e) PROFESSOR BOOKHOUT AND ASSOCIATE PROFESSOR HUNTER AND STAFF

53. COMPARATIVE VERTEBRATE ANATOMY.—A study of the anatomy and evolution of the organ systems of vertebrates. Prerequisites: Zoology 1, 2. 4 s.h. (w) ASSISTANT PROFESSOR HORN AND STAFF

71. HEREDITY AND EUGENICS.—Effects of environment and heredity upon the individual and populations; interpretation of human genetic histories. Prerequisite; one year of zoology. 3 s.h. (w) DR. JACOBS

92. GENERAL EMBRYOLOGY.—A study of the fundamental principles of embryology as illustrated in the frog, chick and mammal. Prerequisite: Zoology 53. 4 s.h. (w) ASSISTANT PROFESSOR NACE AND STAFF

109. EVOLUTION.—The facts and theories of organic evolution. Prerequisite: two years of zoology. 3 s.h. (w) ASSISTANT PROFESSOR BAILEY

110. INTRODUCTION TO GENETICS.—The principles and practical applications of genetics as applied to animals. (Primarily for majors in zoology.) Prerequisite: two years of zoology or consent of instructor. 4 s.h. (w) DR. JACOBS

120. ORNITHOLOGY.—Lectures, laboratory and field trips dealing with the classification, adaptations, and natural history of birds. Prerequisite: one year of zoology. Zoology 53 recommended. 4 s.h. (w) ASSISTANT PROFESSOR BAILEY

151. PRINCIPLES OF PHYSIOLOGY.—An introductory survey of physiological functions. Prerequisites: At least a year of zoology and a year of chemistry. 4 s.h. (w) PROFESSORS SCHMIDT-NIELSEN AND WILBUR

156. VERTEBRATE HISTOLOGY.—The microscopic structure of normal tissues and organs of the vertebrate body. Training will be given in the preparation of material for microscopic study. Prerequisite: Zoology 53. 4 s.h. (w) ASSOCIATE PROFESSOR ROBERTS

161. ANIMAL PARASITES.—An introductory course dealing with biological principles involved in parasitism of animals including man. Prerequisite: one year of zoology. 4 s.h. (E)
ASSOCIATE PROFESSOR HUNTER

193. FUNDAMENTALS OF ZOOLOGY.—The principles involved in the study of structure, function, ecology, genetics, classification, and evolution of animals. An elementary course without laboratory designed for senior students. Not open to students who have had previous courses in zoology. 3 s.h. (w)
ASSISTANT PROFESSOR VERNBERG

196. SEMINAR: CURRENT DEVELOPMENTS IN ZOOLOGY.—Prerequisites: Zoology 53 and 92. Open only to seniors. 2 s.h. (w)
STAFF

FOR SENIORS AND GRADUATES

204. ADVANCED PARASITOLOGY.—Lectures, readings, and laboratory work, dealing with practical and theoretical problems of classification, morphology and host relations of animal parasites. Offered in alternate years. Prerequisite: Zoology 161. 4 s.h. (E)
ASSOCIATE PROFESSOR HUNTER

216. LIMNOLOGY.—A study of lakes, streams, and ponds including their classification, photosynthetic productivity, geochemistry, physical patterns, pollution, fisheries, and significance as microcosms. Lectures, field trips, laboratory work. Prerequisites: Chemistry 1, 2, and a year of biology. 4 s.h. (w)
ASSISTANT PROFESSOR ODUM

219, 220. SPECIAL PROBLEMS.—Senior majors who have had proper training may be permitted to carry on special work. Permission must be obtained from the Director of Undergraduate Studies and the instructor under whom the student wishes to work. Not more than 4 s.h. (w & E)
STAFF

222. ENTOMOLOGY.—A study of anatomy, physiology, embryology, and classification of insects. Offered in alternate years. Prerequisite: One year of zoology. 4 s.h. (w)
PROFESSOR GRAY

224. VERTEBRATE ZOOLOGY.—A study of life histories, adaptations, ecology and classification of vertebrate animals. Offered in alternate years. Prerequisite: Zoology 53. 4 s.h. (w)
PROFESSOR GRAY

238. SYSTEMATIC ZOOLOGY.—The fundamental theory and practice involved in the collection, identification, and classification of animals. Offered in alternate years. Prerequisites: Zoology 1, 2. 4 s.h. (w)
ASSISTANT PROFESSOR BAILEY

252. COMPARATIVE PHYSIOLOGY.—The physiological mechanisms of animals studied on a comparative basis. Prerequisite: Zoology 151 or equivalent. 4 s.h. (w)
PROFESSOR SCHMIDT-NIELSEN

253. ADVANCED VERTEBRATE MORPHOLOGY.—Lectures, reports, and reading assignments in the comparative morphology of the vertebrates, with particular emphasis on theories concerning the interrelationships of vertebrates and the origin of certain vertebrate structures. Advanced laboratory study of structure in selected groups of vertebrates. Offered in alternate years. Prerequisites: Zoology 53, 92. 4 s.h. (w)
ASSISTANT PROFESSOR HORN

271. CELLULAR PHYSIOLOGY.—The physiological processes of living matter approached through studies of cells and tissues. Prerequisites: two years of biology and at least one year of chemistry. 4 s.h. (w)
PROFESSOR WILBUR

274. INVERTEBRATE ZOOLOGY.—A study of structure, functions, and habits of invertebrate animals under normal and experimental conditions. Field trips will be made to study, collect, and classify animals in their natural habitats. Offered in alternate years. Prerequisites: Zoology 1, 2. 4 s.h. (w)
PROFESSOR BOOKHOUT

276. PROTOZOOLOGY.—The morphology, physiology, taxonomy, and culture of protozoa. Offered in alternate years. Prerequisites: Zoology 1, 2. 4 s.h. (w)
PROFESSOR BOOKHOUT

278. INVERTEBRATE EMBRYOLOGY.—Lectures, readings and laboratory work dealing with rearing, life history and development of invertebrates. Offered in alternate years. Prerequisite: Zoology 92. 4 s.h. (w) PROFESSOR BOOKHOUT

For summer courses in Marine Biology consult the Bulletin of the Duke University Marine Laboratory.

DEPARTMENTAL MAJOR

Prerequisites: Zoology 1 and 2.

Major Requirements (for both A.B. and B.S. degrees): A minimum of 24 s.h. of zoology including courses 53, 92, 151 or 271.

Related Work: At least one year of chemistry: additional work usually chosen from courses in botany, chemistry, geology, mathematics and physics.

Language Requirements: For A.B. degree: Preferably German or French. For B.S. degree: Both German and French.

Courses of Instruction College of Engineering



CIVIL ENGINEERING

ASSOCIATE PROFESSOR WILLIAMS, ACTING CHAIRMAN; ASSOCIATE PROFESSOR PALMER;
ASSISTANT PROFESSORS ARGES, GARDNER, HAINES, LEWIS, AND STOTTLEMYER;
MESSRS. BROWN, PETERSON, PIERRY, AND THARP

61. PLANE SURVEYING.—Use of instruments; transit, stadia and compass surveying; determination of meridian by observation on Polaris; differential and profile leveling; setting grade stakes; calculation of bearings, latitudes, departures and areas; methods of plotting; survey and plot of portions of campus by stadia, and transit and tape; care and adjustment of instruments. Prerequisites: G.E. 1 and Math 6. 4 s.h. (w) ASSISTANT PROFESSOR ARGES AND MR. THARP

62. ADVANCED SURVEYING.—Simple triangulation; topographic surveying using stadia and plane table; laying out and division of land; public land system; calculations; grading plans and quantities; determination of azimuth by H. O. 211. Prerequisite: C.E. 61. 4 s.h. (w) ASSISTANT PROFESSOR ARGES AND MR. THARP

108. ADVANCED STRENGTH OF MATERIALS.—Applications of Mohr's circle, deflections, and energy of strain to advanced problems. Prerequisite: G.E. 107. 3 s.h. (w) ASSOCIATE PROFESSOR WILLIAMS
[Offered only upon sufficient demand; enrollment limited.]

S110. PLANE SURVEYING.—The equivalent of C.E. 61 given especially for students in forestry. See *Bulletin of Summer Session*. 4 s.h. (w) MR. THARP

113. ROUTE SURVEYING.—Thorough drill in the calculation and laying out of simple, compound, and easement curves, widening of curves; vertical curves; setting slope stakes; ordinary earthwork computations and mass diagrams. Prerequisite: C.E. 61. 3 s.h. (w) ASSOCIATE PROFESSOR WILLIAMS

116. HIGHWAY ENGINEERING.—Location, design, construction and maintenance of highways and city streets; soil stabilization; traffic studies; economics of planning and design. Prerequisites: C.E. 113, C.E. 135. 3 s.h. (w) ASSOCIATE PROFESSOR WILLIAMS

118. MATERIALS OF ENGINEERING.—Study and testing of materials commonly used in civil engineering. The content of course G.E. 109 and standard tests to determine significant physical properties of cementing materials and aggregates. The design and proportioning of concrete mixtures. Prerequisite: G.E. 107. 3 s.h. (w) ASSISTANT PROFESSORS ARGES AND GARDNER

121. HYDROLOGY.—Fundamentals of meteorology; precipitation; evaporation. Ground water development. Stream flow and stream gaging. Hydrograph analysis. Flood control. Field trips to be arranged. Prerequisite: G.E. 128. 3 s.h. (w) ASSISTANT PROFESSOR STOTTLEMYER
[Offered only upon sufficient demand; enrollment limited.]

123. WATER SUPPLY AND SEWERAGE.—Statistical analysis of rainfall and run-off records; population estimation; analysis of the yield of watersheds and storage requirement; design of water distribution systems; design of sanitary and storm sewerage systems. Prerequisite: G.E. 128. 4 s.h. (w) ASSISTANT PROFESSOR STOTTLEMYER

124. WATER PURIFICATION AND SEWAGE TREATMENT.—Chemical and bacteriological analysis of water and sewage effluents; design of water purification treatment systems; design of sewage treatment plans. Prerequisite: C.E. 123. 3 s.h. (w) MR. BROWN

128. INDUSTRIAL WATER SUPPLIES.—Water quality for industrial uses. Analytical techniques and interpretation of results. Boiler feed water requirements; softening, ion exchange; deaeration, priming; foaming; corrosion; embrittlement. Control of treatment processes. Prerequisite: Chemistry 1-2. 3 s.h. (w) [Not offered 1955-56]

129-130. ELEMENTARY STRUCTURES.—Stresses in beams and trusses for fixed and moving loads. Deflection of beams and trusses. Design of tension, compression, and flexural members; connections; and plate girders. Design of reinforced concrete beams, slabs, columns, footings, and retaining walls. (For students not majoring in structural engineering.) Prerequisite: G.E. 107. 6 s.h. (w)

ASSOCIATE PROFESSOR PALMER

[Offered only upon sufficient demand; enrollment limited.]

131. STRUCTURES.—ANALYSIS AND ELEMENTARY DESIGN.—Stresses in roofs, parallel and inclined chord bridges, including sub-divided panels, by algebraic and graphic methods under all conditions of loading; shear and moments in frames and bents; influence lines: Williot diagram. Structural drafting, details in steel and timber; methods of fabrication and erection. Prerequisites: G.E. 107. 5 s.h. (w)

ASSOCIATE PROFESSOR PALMER AND ASSISTANT PROFESSOR STOTTLEMYER

132. STRUCTURES.—DESIGN.—Tension, compression, flexural members, end posts, eccentric connections, unsymmetrical bending; riveted and welded plate girders; trusses and office building frames; wind analysis. Design and detail drawings. Prerequisite: C.E. 131. 5 s.h. (w)

ASSOCIATE PROFESSOR PALMER AND
ASSISTANT PROFESSOR STOTTLEMYER

133. REINFORCED CONCRETE.—Theory and design of reinforced concrete beams, slabs, and columns including eccentric loads; footings; retaining walls. Prerequisite: G.E. 107. 4 s.h. (w)

ASSOCIATE PROFESSOR PALMER

135. SOIL MECHANICS.—Identification and classification; flow nets; frost action; stability of foundations, cuts and embankments, and retaining walls; settlement. Laboratory includes identification, permeability, shear, unconfined compression, consolidation and compaction tests. Prerequisite: G.E. 107. 3 s.h. (w)

ASSISTANT PROFESSOR GARDNER

137-138. SEMINAR.—Students are required to make reports and to talk on current engineering literature or on such other topics as may be assigned. 2 s.h. (w)

ASSOCIATE PROFESSOR WILLIAMS AND STAFF

[Offered only upon sufficient demand; enrollment limited.]

140. INDETERMINATE STRUCTURES.—Application of least work, slope deflection, moment distribution, and column analogy. Analytic, graphic, and experimental methods are used. Prerequisites: C.E. 131, C.E. 133. 3 s.h. (w)

ASSOCIATE PROFESSOR PALMER

142. HYDRAULIC ENGINEERING.—Static and dynamical principles of fluids applied to specific engineering problems. Effects of gravity, viscosity, compressibility, and surface tension on fluid motion in closed conduits and open channels; surface and form resistance; dimensional analysis and theory of models. Non-uniform flow in open channels. Hydraulic jump, backwater curves. Hydraulic problems of flood control, flood routing. Dam design. Prerequisite: G.E. 128 or M.E. 105. 3 s.h. (w)

ASSOCIATE PROFESSOR WILLIAMS

[Offered only upon sufficient demand; enrollment limited.]

143-144. PROJECTS IN CIVIL ENGINEERING.—This course may be assigned by the Chairman of the Department to certain seniors who have shown an aptitude for research in one distinct field of civil engineering, in which case it may be substituted for certain general civil engineering courses. 2-6 s.h. (w)

STAFF

146. CIVIL ENGINEERING PROBLEMS.—Professional aspects of civil engineering practice. Selected problems in analysis and design, considerations of engineering economy, contracts, specifications, and ethics. Seniors only. 2-3 s.h.

ASSOCIATE PROFESSOR PALMER

ELECTRICAL ENGINEERING

PROFESSOR SEELEY, CHAIRMAN; ASSOCIATE PROFESSOR VAIL, EXECUTIVE OFFICER; ASSOCIATE PROFESSORS EGERTON, KRAYBILL AND MEIER; ASSISTANT PROFESSORS KOENIG AND OWEN; MESSRS. BOWERS AND THURSTONE

51. SURVEY OF ELECTRICAL ENGINEERING.—A course designed to give the student a general survey of the engineering profession, to define the scope of activities of the electrical engineer, and to provide an introduction to engineering problems. One two-hour computation. 1 s.h. (w) ASSOCIATE PROFESSOR KRAYBILL

52. ELECTRIC AND MAGNETIC FIELDS.—An introductory course covering a mathematical and physical analysis of energy relations in electrostatic and magnetostatic fields; resistance, capacitance and inductance of systems of conductors; systems of electric and magnetic units. Two recitations and one two-hour computation. Prerequisites: E.E. 51, Mathematics 52. Physics 52, Mathematics 53 concurrently. 3 s.h. (w) ASSOCIATE PROFESSOR VAIL AND MR. BOWERS

101-102. CIRCUITS IN ELECTRICAL ENGINEERING.—A two-semester course covering methods of electric and magnetic circuit analysis applicable in all branches of electrical engineering; alternating and direct currents; the algebra of vectors and complex quantities; networks; nonsinusoidal waves; coupled circuits; transients; polyphase circuits; complex frequency. Prerequisite: E.E. 52. E.E. 107-108 and Mathematics 131 concurrently. 6 s.h. (w) ASSOCIATE PROFESSOR VAIL

105. ELECTRICAL MEASUREMENTS.—A course covering direct-current and low-frequency alternating-current measurements; the theory, calibration, and use of laboratory standards and of apparatus for the measurement of potential, current, power, and energy; and audio-frequency determination of impedance. Three class sessions and one three-hour laboratory. Prerequisite: E.E. 52. Mathematics 131 and E.E. 101 concurrently. 4 s.h. ASSISTANT PROFESSOR OWEN AND MR. THURSTONE

106. ELECTRON TUBES AND CIRCUITS.—A course covering electronic emission, static and dynamic tube characteristics, rectification, glow-discharge tubes, amplifiers, oscillators, and other typical circuits. Three class sessions and one three-hour laboratory. Prerequisites: E.E. 101, E.E. 105, E.E. 107. E.E. 102 and E.E. 108 concurrently. 4 s.h. (w) ASSISTANT PROFESSOR OWEN AND MR. THURSTONE

107-108. CIRCUITS LABORATORY.—A two-semester course designed to provide instruction in electrical laboratory techniques and in the preparation of engineering reports, and to provide experimental verification of the theory of course 101-102, with which it should be taken concurrently. One three-hour laboratory. 2 s.h. (w) ASSOCIATE PROFESSOR VAIL AND MR. BOWERS

123. PRINCIPLES OF ELECTRIC CIRCUITS.—A course designed especially for students in other branches of engineering, covering fundamental electrical units and both alternating and direct-current circuits. Three class sessions and one three-hour laboratory. Prerequisites: Mathematics 52 and Physics 52. 4 s.h. (w)

ASSOCIATE PROFESSORS KRAYBILL AND EGERTON; ASSISTANT PROFESSOR KOENIG; MR. THURSTONE

124. PRINCIPLES OF ELECTRIC MACHINERY.—A course designed especially for students in other branches of engineering, covering the application of the principles of course E.E. 123 to alternating and direct-current machinery and associated apparatus. Three class sessions and one three-hour laboratory. Prerequisite: E.E. 123. 4 s.h. (w) ASSOCIATE PROFESSORS KRAYBILL AND EGERTON; ASSISTANT PROFESSOR KOENIG; MR. THURSTONE

148. DIRECT-CURRENT MACHINERY.—A study of the principles which underlie the design and operation of all types of direct-current generators, motors, and associated apparatus. Prerequisites: E.E. 101 and E.E. 107. E.E. 102 and E.E. 108 concurrently. 3 s.h. (w) ASSOCIATE PROFESSOR MEIER AND MR. BOWERS

158. ELECTRIC-POWER SYSTEMS.—A course providing a brief survey of the electric-power industry followed by a consideration of the economic and engineering features of power plant location and design, and by a study of the apparatus utilized in the generation, transmission and distribution of electric power. Prerequisites: E.E. 148, M.E. 104, and permission of instructor. E.E. 257-258 concurrently. Elective for electrical majors. 3 s.h. (w) PROFESSOR SEELEY
[Offered only upon sufficient demand; enrollment limited.]

159. TRANSMISSION.—A development of the theory underlying the transmission of electric energy over conductors at both power and communication frequencies. Two class sessions and one two-hour computation. Prerequisites: E.E. 101-102, E.E. 105, E.E. 106, Mathematics 131. 3 s.h. (w) PROFESSOR SEELEY

161. HIGH-VOLTAGE PHENOMENA.—An introductory study of high-voltage phenomena and their engineering applications; behavior of gaps and insulators upon application of power-frequency and impulse voltages; corona; properties of insulating materials; high-voltage measurements; elements of high-voltage design. Two class sessions and one three-hour laboratory. Prerequisites: E.E. 101-102, E.E. 105, E.E. 106, and permission of instructor. Elective for electrical majors. 3 s.h. (w) ASSOCIATE PROFESSOR VAIL
[Offered only upon sufficient demand; enrollment limited.]

163-164. ELECTRIC MACHINERY LABORATORY.—A study of the technique of testing electric machines and a thorough analysis of their performance. Concurrent with E.E. 257-258. One three-hour session, for two semesters. 2 s.h. (w) ASSOCIATE PROFESSOR MEIER AND MR. BOWERS

165-166. ELECTRICAL ENGINEERING SEMINAR.—A course in which seniors are required to present oral reports and dissertations on material appearing in current engineering literature. Juniors may participate, but without credit. 2 s.h. (w) STAFF

171. FUNDAMENTALS OF ILLUMINATION.—A course designed to familiarize the student with some of the factors that influence seeing; to provide a working knowledge of lighting language, sources, and measuring techniques; and to acquaint the student with the basic factors involved in recommended lighting practice. Two class sessions and one two-hour computation. Prerequisites: E.E. 101-102 or E.E. 123, and permission of instructor. Elective. 3 s.h. (w) ASSOCIATE PROFESSOR KRAYBILL
[Offered only upon sufficient demand; enrollment limited.]

173-174. PROJECTS IN ELECTRICAL ENGINEERING.—A course which may be undertaken only by seniors who show special aptitude, or who may have had previous experience directly related to the proposed project. The consent of the Chairman of the Department must be obtained before registering. Elective for electrical majors. 3-6 s.h. (w) STAFF
[Offered only upon sufficient demand; enrollment limited.]

180. RADIO-FREQUENCY TRANSMISSION AND PROPAGATION.—Theory and application of transmission and propagation at high and ultra-high frequencies; impedance-matching elements; coupling devices; cavity resonators; wave guides and antennas. Two class sessions and one three-hour laboratory. Prerequisites: E.E. 159, E.E. 261, and permission of instructor. E.E. 262 concurrently. Elective for electrical majors. 3 s.h. (w) ASSISTANT PROFESSOR OWEN
[Offered only upon sufficient demand; enrollment limited.]

197. INDUSTRIAL APPLICATIONS OF ELECTRICAL EQUIPMENT.—A course of lectures, demonstrations, and recitations designed especially for students in other branches of engineering, dealing with the basic principles of utilization of a wide variety of electrical equipment in industrial practice. Emphasis is on industrial control, motor and generator applications, and electronic devices and applications. Prerequisite: E.E. 124 and permission of instructor. Elective for non-electricals. 3 s.h. (w) ASSOCIATE PROFESSOR MEIER
[Offered only upon sufficient demand; enrollment limited.]

198. **INDUSTRIAL CONTROL.**—This course, open only to students majoring in electrical engineering, consists of a study of the electromagnetic and electronic control of electric motors in industrial applications. Prerequisites: E.E. 101-102, E.E. 106, E.E. 148, E.E. 257, and permission of the instructor. E.E. 258 concurrently. Elective for electrical majors. 3 s.h. (w) ASSOCIATE PROFESSOR MEIER

[Offered only upon sufficient demand; enrollment limited.]

199. **FEEDBACK CONTROL SYSTEMS.**—An introductory study of the theory, analysis, design and operation of servomechanisms, regulators, program controllers, and other feedback controls. Included are electrical, mechanical, hydraulic, aerodynamic, pneumatic, and thermal systems. Steady-state and transient solutions, stability criteria and diagrams, and linear and nonlinear systems are considered. Two class sessions and one three-hour laboratory. Prerequisites: E.E. 101-102, E.E. 106, E.E. 148, and permission of instructor. E.E. 163 and E.E. 257 concurrently. Elective for electrical majors. 3 s.h. (w) ASSISTANT PROFESSOR KOENIG

[Offered only upon sufficient demand; enrollment limited.]

257-258. **ALTERNATING-CURRENT MACHINERY.**—A two-semester course dealing with the theory underlying the design, construction, and operation of synchronous generators, transformers, polyphase induction motors, synchronous motors, single-phase motors of all types, and converters and rectifiers. Prerequisites: E.E. 101-102 and E.E. 148. 6 s.h. (w)

ASSOCIATE PROFESSOR MEIER AND MR. BOWERS

261. **COMMUNICATION ENGINEERING.**—An advanced course dealing with the principles underlying radio communication with special emphasis on the development of methods and procedures for the mathematical analysis of electron tube circuits. Included are vacuum tube amplifiers, oscillators, special electron tube circuits, and introduction to pole and zero studies of response and impedance. Three class sessions and one three-hour laboratory. Prerequisites: E.E. 101-102, E.E. 105, E.E. 106, and Mathematics 131. 4 s.h. (w) ASSISTANT PROFESSOR OWEN

262. **COMMUNICATION ENGINEERING.**—The sequel to course E.E. 261. Included are rectifiers and filters, amplitude and frequency modulation, demodulation, microwave tubes, propagation of radio waves, antennas. Three class sessions and one three-hour laboratory. Prerequisite: E.E. 261. 4 s.h. (w)

ASSISTANT PROFESSOR OWEN

263-264. **OPERATIONAL CIRCUIT ANALYSIS.**—An advanced course covering the mathematical analysis of certain circuits used in electrical engineering, with an introduction to the application of operational calculus to circuit analysis. Prerequisites: E.E. 101-102, Mathematics 131, and permission of instructor. Elective for electrical majors. 6 s.h. (w) PROFESSOR SEELEY

[Offered only upon sufficient demand; enrollment limited.]

MECHANICAL ENGINEERING

ASSOCIATE PROFESSOR KENYON, ACTING CHAIRMAN; ASSOCIATE PROFESSOR REED; ASSISTANT PROFESSORS ELSEVIER, FULTON, HOLLAND, AND WILBUR; MESSRS. HWANG, MACCONOCHIE, RABIN, SMITH AND TAYLOR

52. **KINETICS-MECHANISM.**—Motions of particles. Applications of Newton's Laws of Motion to motions of rigid bodies. Work, energy, impulse, and momentum. Linkages, cams, gears, trains of mechanism. Three recitations, three laboratory hours. Prerequisites: G.E. 2, G.E. 57, Mathematics 52. 4 s.h. (w)

ASSISTANT PROFESSOR HOLLAND, MESSRS. RABIN AND MACCONOCHIE

53. **MATERIALS.**—Mechanical properties of materials; elementary metallurgy; heat treatment, properties and selection of iron, steel, copper, brass, aluminum, plastics, and other common materials. Lectures and recitations supplemented with films and demonstrations. Prerequisite: Chemistry 2. 3 s.h. (w)

MESSRS. RABIN, MACCONOCHIE AND SMITH

57. **PROCESSES.**—Lectures and recitations covering casting, forging, welding, bending, rolling, drawing, machining, and other common processes. Interchangeable manufacture, metal fits, production methods. Supplemented with films and demonstrations. 2 s.h. (w) ASSISTANT PROFESSORS ELSEVIER AND HOLLAND, MR. MACCONOCHIE

101-102. ENGINEERING THERMODYNAMICS.—A basic study of the laws of thermodynamics, their corollaries, and their use in engineering analysis and design. Properties and processes of gases, vapors, vapor-liquid systems, and mixtures. Cycles. Combustion. Three recitations. Prerequisites: Chemistry 2, Physics 52, Mathematics 52. 6 s.h. (w)
ASSISTANT PROFESSOR WILBUR

103-104. HEAT POWER ENGINEERING.—A terminal course in thermodynamics and its engineering applications, for civil and electrical engineering students only. Heat transfer; engines, compressors, boilers, turbines, refrigeration. Three recitations. Prerequisites: Chemistry 2, Physics 52, Mathematics 52. 6 s.h. (w)
ASSOCIATE PROFESSOR KENYON AND ASSISTANT PROFESSOR WILBUR

105. FLUID MECHANICS.—Fluid statics and dynamics. Flow through orifices, nozzles, diffusers, weirs, pipes, and around obstacles. General principles of pumps and turbines. Dimensional analysis and dynamic similarity. Three recitations. Prerequisites: Physics 52, Mathematics 52. 3 s.h. (w) ASSOCIATE PROFESSOR KENYON

106. HEAT TRANSFER.—Conduction, radiation and convection; heat transfer to boiling liquids or condensing vapors; over-all transfer of heat, steady state or variable flow. Applications to heat power, heating and air conditioning, and refrigeration. Prerequisites: M.E. 101 or 103, M.E. 105 or G.E. 128. M.E. 102 or 104 concurrently. May be elected by limited number of C.E. and E.E. students. 3 s.h. (w)
ASSOCIATE PROFESSOR REED

108. AERONAUTICS.—A general course applying the principles of fluid mechanics to airfoils, propellers, and the complete airplane. Prerequisite: M.E. 105. 3 s.h. (w)
ASSISTANT PROFESSOR ELSEVIER

113-114. JUNIOR MECHANICAL ENGINEERING LABORATORY.—Open only to mechanical engineering students. First semester, six laboratory hours, devoted to experiments and reports on instruments, dynamometers, hydraulics, analysis of exhaust gas, and properties of fuels and oils. Second semester, three laboratory hours, devoted to experiments and reports on analysis of coal, heating value of fuels, steam calorimetry and flow, injectors, and ejectors. M.E. 101-102 concurrently. 3 s.h. (w)
STAFF

115-116. JUNIOR MECHANICAL ENGINEERING LABORATORY.—Open only to electrical and civil engineering students. Experiments and reports on instruments, hydraulics, analysis of exhaust gas, internal combustion engines, oil-fired boiler, air compressor, steam engine and turbine, centrifugal fan and pump, and heating value of fuels. Three laboratory hours. M.E. 103-104 concurrently. 2 s.h. (w)
STAFF

150-151. MACHINE DESIGN.—Application of principles of mechanics, strength of materials, constructive processes and engineering drawing to the design of bolted, riveted and welded connections, pressure vessels and machine elements, followed by design of at least one complete machine. M.E. 150 has two recitations and three laboratory hours; M.E. 151 has two recitations and six laboratory hours. Prerequisites: G.E. 107, M.E. 52, M.E. 53, M.E. 57. 7 s.h. (w)

ASSISTANT PROFESSOR HOLLAND AND MR. MACCONOCHIE

153-154. HEATING, AIR CONDITIONING AND REFRIGERATION.—Determinations of heat losses and gains; design of steam, hot water and warm air heating and air conditioning systems; panel heating. Fundamentals of refrigeration theory and design. Applications of refrigeration to summer and year round air conditioning; commercial and industrial applications of refrigeration. Prerequisite: M.E. 106. M.E. 159-160 concurrently. Two recitations, three laboratory hours. 6 s.h. (w)

ASSOCIATE PROFESSOR REED

155. INTERNAL COMBUSTION ENGINES.—Principal cycles; fuel and fuel mixtures; effect of real mixtures on theoretical cycles; combustion; carburetion and fuel injection. Thermodynamic analysis of engine performance. Modern development in the internal combustion engine. Three recitations. Prerequisite: M.E. 101-102. 3 s.h. (w)
ASSISTANT PROFESSOR ELSEVIER

157. CENTRIFUGAL PUMPS AND BLOWERS.—Studies of the basic principles of design, construction and application of centrifugal pumps and blowers. May also include studies of the theory of gas turbines. May be elected by a limited number of mechanical engineering seniors with consent of Chairman of Department. Prerequisite: M.E. 105. 3 s.h. (w)
[Offered only upon sufficient demand; enrollment limited.] ASSISTANT PROFESSOR FULTON

158. INDUSTRIAL ENGINEERING.—A study of the industrial growth and present tendencies of productive industries as concerns the engineer. Specific topics treated are: plant location, organization, production and cost controls, wage payment, etc. Seniors only. Three recitations. 3 s.h. (w)

ASSISTANT PROFESSOR LEWIS AND MR. SMITH

159. SENIOR MECHANICAL ENGINEERING LABORATORY.—Tests and reports on performance and economy of internal combustion engines, steam engines and turbines; heat transfer, radiator tests, and energy balances. Required of all seniors in mechanical engineering. Six laboratory hours. Prerequisite: M.E. 114. M.E. 153 concurrently. 2 s.h. (w) STAFF

160. SENIOR MECHANICAL ENGINEERING LABORATORY.—Required of all seniors in mechanical engineering. Tests and reports on boiler, engine, turbine, condenser and accessories; heat transfer; refrigeration equipment. Six laboratory hours. Prerequisite: M.E. 159. M.E. 154 and M.E. 162 concurrently. 2 s.h. (w) STAFF

162. POWER PLANT CALCULATIONS.—Study of economic and engineering factors in developing steam power plants. Consideration of the performance of boilers, prime movers, condensers and various auxiliaries in various groupings as they affect the plant heat balance. May be elected by limited number of C.E. or E.E. students. Three recitations. Prerequisite: M.E. 102 or 104. M.E. 160 concurrently. 3 s.h. (w) ASSOCIATE PROFESSOR KENYON

164. ENGINEERING ANALYSIS.—A study of a series of engineering problems with particular reference to mathematical and graphical methods of solution and engineering interpretation of results. 3 s.h. (w) ASSISTANT PROFESSOR WILBUR

166. AIR CONDITIONING DESIGN.—Analysis of air-conditioning requirements, summer and winter, commercial and industrial. Design of systems and units, and selection of equipment. Open to seniors who have completed M.E. 153. 3 s.h. (w) MR. SMITH

[Offered only upon sufficient demand; enrollment limited.]

197-198. PROJECTS IN MECHANICAL ENGINEERING.—This course may be assigned by the Chairman of the Department to certain seniors who express a desire for such work and who have shown aptitude for research in one distinct field of mechanical engineering. Elective credit for either semester. 3-6 s.h. (w) STAFF

GENERAL ENGINEERING

STAFF

1. ENGINEERING DRAWING.—The study of mechanical drawing with emphasis on third angle projection, pictorial drawing, dimensioning, working drawings, pencil and ink techniques. 2 s.h. (w) ASSISTANT PROFESSORS HAINES AND LEWIS

2. DESCRIPTIVE GEOMETRY.—A study of drawing board geometry with emphasis on line and plane problems, developments, and intersections. Further emphasis on drawing techniques. Prerequisite: G.E. 1. 2 s.h. (w)

ASSISTANT PROFESSORS HAINES AND LEWIS

57. STATICS.—Concurrent forces, parallel forces, nonconcurrent and nonparallel forces, centroids, friction, moment of inertia. Prerequisite: G.E. 1. Mathematics 52 concurrent. 3 s.h. (w) STAFF

58. DYNAMICS.—General principles of dynamics as applied to particles and rigid bodies. Translation, rotation, general plane motion, work, energy and power, impulse and momentum, gyroscopic motion, introduction to vibrations and balancing of rotating bodies. Prerequisites: G.E. 57 and Mathematics 52. 3 s.h. (w) STAFF

107. STRENGTH OF MATERIALS.—Elastic bodies under stress; flexure of simple, overhanging, fixed and continuous beams; columns; combined stresses, etc. For C.E. students, the laboratory work is included in course C.E. 118. Other students should take course G.E. 109 for laboratory. Prerequisites: G.E. 57, Mathematics 52. 3 s.h. (w) STAFF

109. STRENGTH OF MATERIALS LABORATORY.—Study and use of testing machines and strain gages. Tests to determine significant physical properties of the common engineering materials. Experimental verification of the elementary theory of structural members. Must be preceded or accompanied by G.E. 107. 1 s.h. (w) ASSISTANT PROFESSOR ARGES AND MR. PETERSON

128. HYDRAULICS.—Elementary principles of hydromechanics. Application of hydrostatics to engineering problems and application of the principles of energy, continuity, and momentum to problems of flow. The effects of gravity and viscosity on fluid motion. Dimensional analysis and dynamic similarity; hydraulic measuring devices; steady flow in closed conduits and in open channels. Prerequisite: G.E. 58 or M.E. 52. 3 s.h. (w) ASSOCIATE PROFESSOR WILLIAMS

Student Life and Activities



CONDUCT AND DISCIPLINE: The University expects of its students loyal and hearty cooperation in developing and maintaining high standards of conduct as well as of scholarship. The University therefore reserves the right, and matriculation by the student is a concession of this right, to ask the withdrawal of any student whose conduct at any time is not satisfactory to the University, even though no specific charge be made against the student.

General oversight of the conduct of students and the administering of discipline are under the supervision of the Vice-President in the Division of Student Life. The duty of immediate supervision, guidance, and control of the students in each college is entrusted to the dean of that college. However, through the expressed willingness of the students of the University to assume the responsibility of maintaining high standards of morals and honor, the student body has properly become to a great degree self-governing. Two councils, one of men and the other of women, each composed of duly elected representatives of the student body, exercise the authority granted the students for their respective colleges to investigate all cases of misconduct, as well as all other cases of violation of proper student standards and traditions, and to make recommendations of penalties based on their findings.

The student councils have been helpful to the administrative authorities of the University. They exert a guiding and stimulating influence for the promotion of high ideals of conduct and of student relationships.

ASSEMBLY AND CLASS MEETINGS: The sophomore, junior and senior classes of Trinity College and the College of Engineering meet four times each year and on call to discuss matters pertinent to the individual groups. The freshman classes of these colleges hold weekly meetings. Attendance in class meetings is compulsory.

In the Woman's College the Student Government Association meets on first Monday evenings; the College Assembly is held on second Monday evenings; house meetings are held on third Monday evenings; and class meetings, with the exception of the freshman class, are held on fourth Monday evenings. The freshmen meet as a class each week. In each instance, attendance is required.

AUTOMOBILE REGULATIONS: Freshmen are not permitted to own or operate motor vehicles at the University. Members of other

classes in Trinity College and the College of Engineering are permitted to operate motor vehicles provided they are registered and operated in accordance with University regulations; under the same conditions seniors in the Woman's College may have cars.

SCHOLASTIC REGULATIONS FOR PARTICIPATION IN ATHLETIC AND OTHER ACTIVITIES: Students who received less than a passing grade on more than six hours of required work of the preceding term are ineligible to represent the University in any athletic contest, concert, or other public event.

Members of athletic teams or other student groups engaging in public representation of the University are expected to be carrying their current work satisfactorily. Students may be barred from participation in such representation if, in the opinion of the dean, they fail to meet this requirement.

RELIGIOUS LIFE: "Eruditio et Religio," the motto emblazoned on the seal of the University, proclaims belief in the essential union of knowledge and religion in the educational process. Provisions, both academic and extra-curricular, are made for the realization of this aim. Academic offerings in the field of Religion are described elsewhere in this catalog. The description below concerns non-academic provisions.

The Gothic Chapel stands at the center of the campus, an inspiring symbol of the place of religion in the well-balanced life. This is the home of the Duke University Church, Interdenominational. The Church encourages the cultivation of the spiritual and moral life of students through participation in a program of varied activities.

In the Service of Worship on Sunday morning several hundred students participate by singing in the choir; at least one hundred other students aid in special ways, as ushers, collectors, and assistants at communion services. Hundreds come to worship and are inspired by the beauty and challenge of these services.

But the Church also encourages the students to translate their worship into effective Christian living. A rich program of activities is offered, so that every student can find something that will challenge his interests and meet his needs as an active member of his faith.

These activities are developed along three lines: interfaith, interdenominational, and denominational. Protestant, Jewish, and Roman Catholic students are organized in their respective groups; but periodically they join together in interfaith programs which are carefully planned to respect the traditions of the various faiths. Interdenominational activities for all Protestant students are emphasized because it is believed that a more complete Christian faith is developed through sharing knowledge and fellowship with Christians of other churches.

Vital to the religious life at Duke are the various church groups

known on the campus as the Protestant Denominational Groups. The Church looks to these organizations, under the leadership of their respective chaplains or advisers, to provide a continuing denominational experience through worship, study, service activities, and recreation. The promotion of churchmanship as a part of the total educational experience at Duke is designed to equip students to assume the role of leaders in their local church when they leave the University.

Additional features of the program are the organ recitals and special musical services which are given from time to time on Sunday afternoons in the Chapel. During the summer, carillon recitals are presented twice a week.

The total religious program is under the direction of the Official Board of the Church, composed of an equal number of faculty-staff members and students. The Chaplain is the administrative officer in charge of the religious activities program. Professional guidance is given by the Chaplain to the University, the Preacher to the University, the Choir Director, and the Organist, the Associate Directors of Student Religious Life, and the denominational Chaplains.

PUBLIC LECTURES AND SOCIAL FUNCTIONS: The Faculty Council on Public Lectures supervises all public lectures, addresses, and other public events given under the auspices of the University or of any organization in any way connected with the University. All dates and programs must be approved by the Council, which prepares an official yearly calendar. Current announcements of public occasions appear in the Weekly Calendar of Duke University issued by the Department of Alumni Affairs.

A social committee composed of students and staff members from the undergraduate colleges exercises general supervision over major social functions. The executive officers of the committee are the Dean of Undergraduate Men and the Dean of Undergraduate Women.

MEDICAL CARE: With the exceptions noted below, full medical and surgical care is furnished to all regularly matriculated students of the University. The cost is included in the general fee paid each semester and in the fees charged each student in the summer quarter.*

The service is under the direction of the University Physician with the cooperation of the Staff. It includes hospitalization in Duke Hospital, as deemed necessary by the Hospital Staff but limited to thirty days; medical and surgical care under the supervision of a senior physician or surgeon; drugs, X-ray work, and ward nursing. Special nursing is not covered. Students pay for board while in the hospital. Refractions of eyes, treatment of teeth and of all chronic and pre-existing conditions, such as diseased tonsils, hernias, pilonidal cysts

* Only those students who have paid the fee for the semester, quarter or summer session during which illness occurs are entitled to the services described herein.

and other elective surgery, chronic skin conditions, endocrine disturbances, etc., and accidents or illnesses occurring during vacations or while off the campus, are not included in this service. The cost of any necessary braces and orthopaedic appliances, as well as of special nursing, must be borne by the students, and blood used for transfusions must be paid for or replaced. If students have insurance providing hospitalization, surgical, or medical benefits, the benefits shall be applied to the cost of their medical care.

Advisory consultation with a psychiatrist at no expense is available to students through referral either by the Student Health Physicians or by the deans, but office visits for psychotherapeutic interviews cannot be included in this service.

A woman physician is in residence and a nurse in constant attendance at the Woman's College Infirmary. Patients in this Infirmary can be transferred to the Duke Hospital at any hour of the day or night. Male students receive ambulant care at the student health office in the hospital building during dispensary hours. Men are admitted to the hospital directly whenever necessary. The emergency service and the specialist consulting services of the Hospital and Medical School are always available.

Students are given a careful physical examination upon arrival at the University. Any physical defects are recorded along with the record of the questionnaire from the family physician. All students are requested to be vaccinated successfully against smallpox before admission to the University. It is urgently advised that they take typhoid vaccine if they have not done so within three years, and that all male undergraduates be actively immunized to tetanus by injections of toxoid.

PHYSICAL EDUCATION: Students of Trinity College and the College of Engineering are required to engage in some type of physical activity for two years or four full semesters. This work consists of participation in natural, practical, physical activity for at least three one-hour periods each week. The purpose is to improve body control and strength through big muscle activities, to stimulate the development of mental and physical alertness, to establish habits of regular exercise, and to give training and experience in various kinds of recreational sports that will be indulged in after the student is graduated from the University.

Intramural sports are promoted and fostered in all phases of athletic activity. Meets, tournaments, and leagues are seasonally organized in the different sports. All students of the two colleges are eligible to enjoy the intramural privileges, provided they comply with the intramural rulings. Participation in these activities is entirely voluntary, but they are very popular because they provide an opportunity

for every man to enter into competition and recreation in those sports which he enjoys most.

The work of the Physical Education Department of the Woman's College is designed to give the students of that college an appreciation of the value of activity for general physical well-being, skill in one or more activities which can be enjoyed as recreation during and after college, a well-developed and well-coordinated body, and a knowledge of good posture and efficient handling of the body in everyday activities. To this end, students are allowed to choose from a large number of activities, including individual, dual, and team sports, swimming, and several types of dancing. In order to insure a variety of skills, each student, during her three years of required physical education, must elect one semester's work in each of the following types of activity: individual or dual sports, and dance. All students who are unable to pass the swimming test must take one semester of swimming before graduation. At the mid-point in the fall semester of the freshman year, the activity course ends and all freshmen take one period a week of body mechanics and one of social hygiene for the remainder of the semester.

The Dance Group, the Swimming Club, and the other sports clubs run by the Woman's Athletic Association give opportunities for all students to take part in the types of intramural activities most interesting to them. The swimming pool, tennis courts, and other athletic equipment are available to all students for use at specified times.

In order to meet certain hygienic aspects of physical education and intramural athletics, the University has made available for all students, in addition to facilities for physical activity and recreation, the following equipment and services:

1. (a) MEN. A regulation uniform: shirt, trunks, supporter, socks, sweat clothes, and towel.
- (b) WOMEN. Gym suit, dance costume, bathing suit, warm-up suit.
2. Provision for locker and handling of uniform.
3. The laundering of uniform and towel as needed.

The privileges and services listed above are available to all students who pay full fees, as long as they comply with the rules and regulations established for the care and handling of the equipment.

THE INTERCOLLEGIATE ATHLETIC PROGRAM: The program, controlled entirely by the University, consists of the organization and training of representative freshman and varsity teams in football, basketball, track, cross country, golf, gymnastics, lacrosse, soccer, swimming, tennis, and wrestling.

The program is under the supervision of the Athletic Council, composed of seven members. Three of the seven are appointed from the faculty as follows: one member from the Officers of General Administration, one from the Officers of Educational Administration,

division of the Colleges, and one from the Officers of Instruction of the undergraduate colleges. From this group the President of the University appoints the faculty chairman, who serves as chairman of the Athletic Council and of its executive committee.

Four of the seven members are selected from the alumni. One of the four, a University Trustee, an alumnus, and a member of the Board's standing Committee on Physical Education and Athletics, is appointed not less frequently than every three years by the chairman of the Board of Trustees. The remaining three, who may not succeed themselves, are elected annually by the general Alumni Association for terms of three years. The Director of Alumni Affairs serves *ex officio* as secretary of the Council and of the executive committee.

The three faculty members of the Athletic Council constitute a committee which alone has the responsibility of enforcing the scholarship and athletic requirements of the University for participation in intercollegiate sports. The athletic eligibility rules are those of the Atlantic Coast Conference.

The executive committee of the Athletic Council is composed of the faculty chairman of the Council, one other faculty member of the Council and one alumni member of the Council. The executive committee of the Council recommends to the President of the University persons to serve as Director of Athletics and as coaches in the various sports. The election of such persons, however, rests solely with the Board of Trustees of the University or with its Executive Committee on recommendation of the President of the University. The executive committee of the Council recommends to the Athletic Council athletic schedules and the award of insignia of merit earned by members of the athletic teams. However, decisions with respect to the same rest solely with the Athletic Council subject to approval of the President.

Each of the four undergraduate classes selects annually, for terms of one year, a member of each respective class to serve in an advisory capacity to the Athletic Council upon call of the faculty chairman on the matter of awarding insignia of merit.

All funds arising from athletics are handled entirely by the Treasurer of the University. An audit of the receipts and disbursements of these funds is made annually by the official auditors of the University and a report thereof made annually to the Executive Committee of the Board of Trustees.

THE DUKE STUDENT UNION: All students of Trinity College, the College of Engineering, and the Woman's College are members of the Student Union. The Union Building, located on the West Campus, is the student center. In one section the alumni offices, dining facilities, University store, grill, soda fountain, post office, barber shop, bank, and ball room are housed. In the other there are student organization offices; meeting rooms; information center; music, television,

reading, and Town Boys' lounge; and a recreational area. Similar facilities for services and activities for the Woman's College are provided on that campus.

The Union has as its stated purpose "to stimulate, promote, and develop the social, recreational, cultural, educational, and spiritual activities of the students of Duke University." This purpose is carried out through a broad program of social and cultural recreation adapted to the leisure-time interests and needs of the campus. This program is administered by a Board of Governors composed of ten students and the Director of the Student Union. Numerous activity committees plan and work under the supervision of the Board of Governors.

STUDENT ACTIVITIES OFFICES: The Student Activities Offices, established for the purpose of guiding and coordinating the activities of the various student organizations, are under the supervision of the Director of the Student Union on the West Campus and the Dean of Undergraduate Women on the East Campus. The Offices cooperate with the University Treasurer's Office in providing banking service and advice with regard to budgeting, accounting, and auditing. Permanent records of all financial activities of organizations are kept here. These Offices, in cooperation with the University Purchasing Department, also serve in the capacity of purchasing agent for affiliated student organizations. There is no charge for this service.

STUDENT PUBLICATIONS: Student publications of the University are under the control of a Publications Board, which is constituted as follows: three members from the University staff and two from the alumni, appointed by the President; six men from the junior and senior classes, elected by the students in Trinity College and the College of Engineering; four women from the junior and senior classes, elected by the students in the Woman's College; and four editors and four managers of student publications, *ex officio* members without voting power. No student publications can be started at the University without the approval of the Council.

The four publications of campus-wide interest are the *Archive* (monthly); the *Chanticleer* (annual); the *Chronicle* (semiweekly); *Duke Peer*. The Engineering students issue a professional bimonthly magazine, the *DukEngineer*.

STUDENT BROADCASTING SYSTEM: The student broadcasting system of the University is under the control of a Radio Council, which is constituted as follows: two members from the University staff, appointed by the President; three members from the faculty who serve as engineering, production, and business advisers; three men from the junior and senior classes, including one engineer, elected by the students in Trinity College and the College of Engineering; one woman from either the junior or senior class, elected by the students of the

Woman's College; one man from either the junior or senior class, elected by the members of the Student Legislature of the Men's Student Government Association from within the membership of that body; one woman from either the junior or senior class, elected by the members of the Woman's Student Government Council from within the membership of that body; and four student managers of the student broadcasting system, *ex officio* members without voting power.

STUDENT ORGANIZATIONS: The following organizations are active on the campus: *The Men's Student Government Association of Duke University* comprises all men students in Trinity College and the College of Engineering. Through its officers and a council it initiates policies and oversees matters within the control of the male student body. The council is composed of seven members: four executive officers, attorney general, chairman of the Campus Welfare Committee, and chairman of the Educational Affairs Committee.

The Woman's Student Government Association is similar in character to the men's association. Its council is composed of the officers of the Association, house presidents, house judicial representatives, and president of the Town Girls' Club, class representatives, and chairman of the Freshman Advisory Council, *ex officio*.

The Young Men's Christian Association and the *Young Women's Christian Association* are branches of the national student Christian Associations. Each body aims not only to enrich the religious life of its members as individuals but also to promote religious group activity. These organizations carry on extensive activity in the fields of social service, faculty-student relations, forums, and other related projects. Membership in the Student Religious Council relates these organizations to the total religious activities program of the Duke University Church, Interdenominational.

Other organizations and activities include the following: Air Force Club; Arnold Air Society; Bench and Bar Society (Pre-Legal Undergraduates) Chemistry Club, Class of 1955; Class of 1956; Class of 1957; Class of 1958; Commodore Club (N.R.O.T.C. Social Organization); Debate Council; Duke-Charlotte Club; Duke Players; Duke University Church (Interdenominational); Duke University Handbook, and Directory; Engineer's Student Council; Hoof 'n' Horn; Interdormitory Council; Interfraternity Council; Intramural Athletic Department; Men's Freshman Advisory Council; Miami-Duke Club; Pep Board; Pre-Medical Society; Publications Board; Radio Council, Reading Club; Semper Fidelis Society; Shoe and Slipper Club; Sociology Club; Student Religious Council; Student Union Board of Governors; Town Boys' Club; Town Girls' Club; WDBS (campus radio station); Woman's College Student Forum; Women's Athletic Association; Women's Freshman Advisory Council; Women's Pan-Hellenic Council; Young Democrats Club; and the Campus Chest Fund.

The following honorary orders and fraternities have chapters on the campus: National—Alpha Kappa Psi (Economics); Delta Phi Alpha (German); Eta Sigma Phi (Classics); Kappa Chi (Pre-Ministerial); Kappa Delta Pi (Educational); Mu Sigma (Psychology); Omicron Delta Kappa (Leadership—Men); Phi Beta Kappa (Scholarship); Phi Eta Sigma (Freshman Scholarship—Men); Pi Mu Epsilon (Mathematics); Sigma Delta Pi (Spanish); Sigma Pi Sigma (Physics); Sigma Xi (Science); Tau Kappa Alpha (Forensic); Tau Psi Omega (French).

Local—Ivy (Scholarship—Freshman Women); Delta Phi Rho Alpha (Athletic—Women); Varsity "D" Club (Athletic—Men); Beta Omega Sigma (Leadership—Sophomore Men); Sandals (Leadership—Sophomore Women); Phi Kappa Delta (Leadership—Women); Red Friars (Leadership—Senior Men); White Duchy (Leadership—Senior Women).

Engineering (Professional)—American Institute of Electrical Engineers; the American Society of Civil Engineers; and the American Society of Mechanical Engineers. Engineering (Honorary)—Tau Beta Pi (Engineering national honor society); Eta Kappa Nu (Electrical engineering national honorary society); Pi Tau Sigma (Mechanical engineering national honorary society); Order of St. Patrick (Leadership).

Local musical organizations available to qualified members are: Chamber Orchestra; Concert Band; Madrigal Singers; Marching Band (Men); Men's Glee Club; Symphony Orchestra; University Chapel Choir; Women's Glee Club.

The following national social fraternities have chapters on the campus: Alpha Tau Omega; Beta Theta Pi; Delta Sigma Phi; Delta Tau Delta; Kappa Alpha; Kappa Sigma; Lambda Chi Alpha; Phi Delta Theta; Phi Kappa Psi; Phi Kappa Sigma; Pi Kappa Alpha; Pi Kappa Phi; Sigma Alpha Epsilon; Sigma Chi; Sigma Nu; Sigma Phi Epsilon; Tau Epsilon Phi; Theta Chi; Zeta Beta Tau.

The following national social sororities have chapters on the campus: Alpha Chi Omega; Alpha Delta Pi; Alpha Phi; Alpha Epsilon Phi; Delta Delta Delta; Delta Gamma; Kappa Alpha Theta; Kappa Delta; Kappa Kappa Gamma; Phi Mu; Pi Beta Phi; Sigma Kappa; Zeta Tau Alpha.

Honors and Prizes



HONORS: To be eligible for Honors a student must earn, during the year, credit for at least the normal load of the college in which he is registered. All semester hours on which a student receives a grade are counted in the determination of Honors. Students in the freshman, sophomore, and junior classes who earn an average of at least three and one-half quality points per semester hour are given Honors.

The degree of Bachelor of Arts or of Bachelor of Science with distinction is conferred in accordance with the following rules:

To be eligible for general Honors at graduation a student must have completed in residence a minimum of ninety semester hours. Those students who earn an average of at least three and one-half quality points per semester hour are recommended for a degree *magna cum laude*. Those who earn an average of at least three and three-fourths quality points per semester hour are recommended for a degree *summa cum laude*.

MEDALS AND PRIZES: *The Wiley Gray Medal* was established by the late Robert T. Gray, Esq., of Raleigh, North Carolina, to be awarded annually in memory of his brother. It is given for the graduating oration that shall be, in the opinion of a committee, the best, with respect to both declaration and composition.

The Debate Council authorizes the awarding of medals to members of the graduating class who have represented the University in at least two intercollegiate debates. The medals are given by the local chapter of the Tau Kappa Alpha Fraternity.

The Robert E. Lee Prize is the gift of The Reverend A. W. Plyler, of the Class of 1892, and Mrs. Plyler. The sum of \$50 is awarded annually at Commencement, preferably to that member of the senior class of Trinity College or the College of Engineering who, in character and conduct, in scholarship and athletic achievement, in manly virtues and capacity for leadership, has most nearly realized the standards of the ideal student. The Vice President in the Division of Student Life, the Graduate Manager of Athletics, and the President of the Student Council constitute a committee to draft and adopt regulations governing the award.

Alpha Kappa Psi Medallion. Beta Eta Chapter of Alpha Kappa Psi, a professional fraternity in commerce, awards annually the Alpha Kappa Psi Scholarship Key to the male senior student pursuing a degree in the Department of Economics and Business Administration

who has attained the highest scholastic average for three years of collegiate work in this University.

Medal of the North Carolina Association of Certified Public Accountants. The North Carolina Association of Certified Public Accountants annually awards a medal to the senior who, in the judgment of his instructors, is the most outstanding student in accounting in his graduating class.

Julia Dale Prize in Mathematics. This is a prize of books given annually to the undergraduate who shows the greatest proficiency in the study of calculus.

The Milrow Prize, consisting of one year's subscription to the *Electrical World*, is awarded each year to that student from North or South Carolina graduating in the Department of Electrical Engineering who, in the opinion of the faculty of that department and as shown by his grades, has made the most progress in electrical engineering during his last year in college.

The Tau Beta Pi Prize. The North Carolina Gamma chapter of Tau Beta Pi, national honorary engineering fraternity, awards each year a suitable prize, such as an engineering handbook, to a sophomore student in engineering for outstanding scholastic achievement during the freshman year.

The Phi Lambda Upsilon Prize. Phi Lambda Upsilon, honorary chemical society, yearly awards a suitable prize to an outstanding junior who is majoring in chemistry. The recipient's name is inscribed on a plaque displayed in the Chemistry Library.

The Pegram Chemistry Club Prize is awarded in the spring of each year for scholarship in chemistry, physics, and mathematics. The prize consists of a one-year junior membership in the American Chemical Society and a one-year subscription to either the *Journal of the American Chemical Society* or *Industrial and Engineering Chemistry*. To qualify for this prize, the student must (1) be enrolled as an undergraduate of Duke University and (2) be taking or have taken a fourth-year chemistry course. The winner of this prize is selected by a committee consisting of at least one faculty member and at least two members of the Pegram Chemistry Club; the selection is based on the quality-point average for all courses taken in chemistry, physics, and mathematics. In case of a tie equal awards are given.

The Sigma Xi Prize. The Society of the Sigma Xi, honorary scientific society, is devoted to the encouragement of scientific research, and seeks to stimulate those who show promise of accomplishment in scientific research. As an encouragement to younger men and women the Duke Chapter of Sigma Xi has established the following prizes to be awarded annually to students resident at Duke University: \$20.00 for an undergraduate project or paper, \$20.00 for a Master's thesis or its equivalent, and \$40.00 for a Ph.D. dissertation or its

equivalent. Nominations, recommendations, copies of theses, reports or other material must be in the hands of the Secretary of the Chapter on or before May 5.

The Erasmus Club Prize in the Humanities. The Erasmus Club, founded in 1925, a group of Duke faculty members interested in research in language, literature, and the arts, seeks to stimulate interest and study in these fields. To encourage Duke students in this field, the Erasmus Club has established an annual prize amounting to \$25.00, for the best original essay by an undergraduate which embodies the results of research, criticism, or evaluation in some subject in the humanities. Prospective competitors should consult some member of the faculty, preferably their major professor. Essays must be type-written and must be submitted to the president of the club before the first of April. The club reserves the right to withhold the prize in case there are no essays of acceptable quality.

The Anne Flexner Memorial Award in Creative Writing has been established by the friends of the family of Anne Flexner, who graduated from Duke in 1945. It consists of fifty dollars in cash and a book bearing the Anne Flexner Memorial Award bookplate. The award is given annually for the best piece of creative writing submitted by a Duke undergraduate. The competition is limited to short stories (5,000-word limit), one-act plays (5,000-word limit), poems (100-line limit), and informal essays (3,000-word limit). Only one manuscript may be submitted by a candidate, and manuscripts must be delivered to the English Office, Room 325 Allen Building, before April 15.

The William Senhauser Prize is given by his mother in memory of her son, a member of the Class of 1942, who lost his life in the Pacific Theatre of War on August 4, 1944. The award is made annually to the sophomore or junior in Trinity College or the College of Engineering who has made the greatest contribution through participation and leadership in intramural sports. The winner of this prize is chosen by a committee selected by the President of the University.

The *Friends of Duke University Library* offer three prizes of \$25.00, \$15.00, and \$10.00, in an annual contest open to all undergraduate students for the best book collections acquired during their college years. The contest is supervised by the Undergraduate Committee of the Friends of the Library, which announces each fall the terms of the award. Inquiries may be directed to the Curator of Rare Books. Collections entered in the contest are exhibited each spring in the General Library, and the prizes are awarded on the basis of the student's collection and a personal interview to determine the overall planning and objectives of his collecting activity, and his familiarity with his own books and the general field of his collecting interest.

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BULLETIN
OF
DUKE UNIVERSITY



The School of Nursing
The Division of Nursing Education

ANNOUNCEMENTS FOR 1955-1956

Annual Bulletins

For GENERAL BULLETIN of Duke University, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF UNDERGRADUATE INSTRUCTION, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF THE COLLEGE OF ENGINEERING, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF THE GRADUATE SCHOOL OF ARTS AND SCIENCES, apply to *The Dean of the Graduate School*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF FORESTRY, apply to *The Dean of the School of Forestry*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF LAW, apply to *The Dean of the School of Law*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF MEDICINE, apply to *The Dean of the School of Medicine*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF NURSING, apply to *The Dean of the School of Nursing*, Duke University, Durham, N. C.

For BULLETIN OF THE DIVINITY SCHOOL, apply to *The Dean of the Divinity School*, Duke University, Durham, N. C.

For BULLETIN OF THE SUMMER SESSION, apply to *The Director of the Summer Session*, Duke University, Durham, N. C.

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BULLETIN
OF
DUKE UNIVERSITY

THE SCHOOL OF NURSING



1955-56

DURHAM, NORTH CAROLINA
1955

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Calendar of the School of Nursing and of the Colleges



SUMMER TERM OF THE SCHOOL OF NURSING AND SUMMER SESSION OF DUKE UNIVERSITY

1955

- May 30—Monday. Clinical Instruction and practice begins for Summer Term for pre-registered students in School of Nursing.
- June 5—Sunday. Moving up Day in School of Nursing.
- June 12—Sunday. Dormitories open for new students.
- June 12—Sunday. 7:30. Orientation begins for new students.
- June 13—Monday. Registration for new students in School of Nursing.
- June 14—Tuesday. Last day for registration in Summer Session courses.
- June 15—Wednesday. Instruction begins in all 6-week courses in first term of Summer Session.
- July 9—Saturday. Not a holiday. All classes meet.
- July 22, 23—Friday, Saturday. Final examinations for first term Summer Session courses.
- July 25—Monday. Instruction begins for second term 6 week courses in School of Nursing.
- July 26—Tuesday. Registration for new students for second term Summer Session.
- July 27—Wednesday. Instruction begins in all second term Summer Session courses.
- July 30—Saturday. Not a holiday. All classes meet.
- August 6—Saturday. Not a holiday. All classes meet.
- August 26, 27—Friday, Saturday. Final examinations for second term School of nursing courses.
- August 30, 31—Tuesday, Wednesday. Final examinations for second term Summer Session.

The Academic Year 1955-56

1955

- September 15—Thursday, 7:30 P.M. Assembly for all entering freshman and students with advanced standing.
- September 19—Monday. Clinical Instruction and practice begin for Fall Term.

- September 20—Tuesday. Registration and Matriculation of new students (with advanced standing, Woman's College.)
- September 21—Wednesday. Final day for registration.
- September 22—Thursday. Fall semester classes begin.
- November 7—Monday. Last day for reporting Mid-semester grades.
- November 23—Wednesday. 5:00 P.M. Thanksgiving recess begins for freshman and sophomore students in the School of Nursing.
- November 24—Thursday. Holiday—School of Nursing.
- November 28—Monday. 8:00 A.M. All classes are resumed.
- December 11—Sunday. Founders' Day.
- December 20—Tuesday. 12:30 P.M. Christmas recess begins for Colleges and scheduled vacations begin in the School of Nursing.

1956

- January 3—Tuesday. 8:00 A.M. All classes resumed.
- January 14—Saturday. Fall semester classes end.
- January 16—Monday. Final examinations begin.
- January 27—Friday. Final examinations end.
- January 30—Monday. Spring Semester classes begin in School of Nursing.
- January 30—Monday. Registration and matriculation of new students in the Colleges.
- January 31—Tuesday. Last day for matriculation for the Spring Semester.
- February 1—Wednesday. Spring semester classes begin in the Colleges.
- March 14—Wednesday. Last day for reporting mid-semester grades.
- March 24—Saturday. 12:30 P.M. Spring recess begins and scheduled vacations begin in the School of Nursing.
- April 2—Monday. 8:00 A.M. Classes are resumed.
- May 18—Friday. 5:00 P.M. Spring semester classes end.
- May 21—Monday. Final examinations begin.
- May 28—Monday. Clinical instruction and practice begins for Summer Term of School of Nursing.
- May 31—Thursday. Final examinations end.
- June 2—Saturday. Commencement begins.
- June 3—Sunday. Commencement Sermon
- June 4—Monday. Graduating Exercises.

Officers of the School for the Year 1954-1955



General Administration

ARTHUR HOLLIS EDENS, Ph.D., LL.D. <i>President of the University</i>	2138 Myrtle Drive
PAUL MAGNUS GROSS, Ph.D. <i>Vice-President in the Division of Education</i>	2816 Dover Road
CHARLES EDWARD JORDAN, A.B., LL.D. <i>Vice-President in the Division of Public Relations</i>	813 Vickers Avenue
HERBERT JAMES HERRING, M.A., LL.D. <i>Vice-President in the Division of Student Life</i>	2010 Myrtle Drive
ALAN KREBS MANCHESTER, Ph.D. <i>Dean of Undergraduate Studies</i>	2016 Myrtle Drive
ALFRED SMITH BROWER, A.B. <i>Business Manager and Comptroller</i>	614 West Campus Drive

School of Nursing Administration

ANN MADELINE JACOBANSKY, R.N., M.Ed. <i>Dean of the School of Nursing</i>	Westover Park Apartments
LELIA ROSS CLARK, R.N., M.A. <i>Director of Nursing Service</i>	Poplar Apartments
RUTH MAE KOCH, M.S. <i>Counselor for Students</i>	Hanes House
MURIEL SCHUMACHER, R.N. <i>Supervisor of Student Health</i>	#6 Sylvan Road

Faculty

MARY MILTON CAMPBELL, R.N., B.S.N.Ed. <i>Instructor in Operating Room Nursing</i>	402 Buchanan Boulevard
LELIA ROSS CLARK, R.N., M.A. <i>Professor of Nursing Service</i>	Poplar Apartments
BERNARDINE AREY CLARKE, R.N., B.S.N.Ed. <i>Instructor in Pediatric Nursing</i>	718 Underwood Avenue
MARTHA LEE COVINGTON, R.N., B.S.N. <i>Instructor in Nursing Arts</i>	810 Demerius Street
THELMA ELIZABETH DAVIS, R.N., B.S. <i>Instructor in Obstetric Nursing</i>	305 Monmouth Avenue
AUDREY MURLE EVANS, R.S. <i>Instructor in Nutrition and Diet Therapy</i>	409 Cook Street

THELMA INGLES, R.N., M.A. <i>Associate Professor of Nursing Education</i>	1412 Duke Street
ANN MADELINE JACOBANSKY, R.N., M.Ed. <i>Professor of Nursing</i>	Westover Park Apartments
BETTY SUE JOHNSON, R.N., B.S.N.Ed. <i>Instructor in Psychiatric Nursing</i>	608 Buchanan Boulevard
EILEEN KIERNAN, R.N., B.S. <i>Instructor in Premature Nursing</i>	920 Second Street
LOIS NINA KNOWLES, R.N., B.S.N. <i>Instructor in Nursing Arts</i>	2201 Woodrow Street
RUTH MAE KOCH, M.S. <i>Assistant Professor of Nursing Education</i>	Hanes House
PAULINE WAYNE McCASKILL, R.N., B.S. <i>Instructor in Medical Nursing</i>	2611 Guess Road
LUCY ETHELYN MASSEY, R.N., M.A. <i>Assistant Professor of Nursing, Coordinator, Public Health Nursing</i>	Chapel Hill, N. C.
MARGARET EMMA MILLER, R.N., B.S.N.Ed. <i>Instructor in Surgical Nursing</i>	2113 Englewood Avenue
ANNA COOPER PAINTER, R.N., B.S.N.Ed. <i>Instructor in Pediatric Nursing</i>	3000 Chapel Hill Road
JOSEPHINE RAPPAPORT, R.N., M.A. <i>Assistant Professor of Nursing Education</i>	2915 Monroe Avenue
RACHEL LEE RODGERS, R.N., B.S.N.Ed. <i>Instructor in Nursing Arts</i>	810 Demerius Street
KATHERINE TILLEY, R.N., B.S.N.Ed. <i>Instructor in Psychiatric Nursing</i>	Highland Hospital, Asheville, N. C.
JENNET MAE WILSON, R.N., B.S.N.Ed. <i>Instructor in Obstetric Nursing</i>	402 Buchanan Boulevard
MARY LAMOND WILSON, R.N., B.S.N.Ed. <i>Assistant Instructor in Surgical Nursing</i>	Westover Park Apartments
HALINA ANN ZUKOWSKI, R.N., M.L. <i>Assistant Professor of Nursing</i>	918 Monmouth Avenue

Instruction in the School of Nursing is given by members of the general faculty and the faculty of the School of Medicine listed in the respective bulletins.

ASSISTANTS

CAROLINE BARILETT, R.N., B.S.N. <i>Supervisor, Evening Nursing Service</i>	SARA M. JEFFREYS, R.N. <i>Supervisor, Surgical Nursing Service</i>
GERALDINE BODIE, R.N., A.B., B.S. <i>Head Nurse, Osler Ward</i>	AILEEN LEDFORD, R.N. <i>Head Nurse, Delivery Room</i>
PAULINE CARDEN, R.N. <i>Head Nurse, Recovery Room</i>	PEARLINE MCJUNKIN, R.N. <i>Head Nurse, Central Supply Room</i>
GRETCHEN J. CHEEK, R.N. <i>Supervisor, Central Supply Service</i>	VELMA MELTON, R.N. <i>Head Nurse, Welch Ward</i>
GERTRUDE ELLIOTT, R.N. <i>Supervisor, Obstetric-Gynecology Nursing</i>	ELSIE G. MOSS, R.N. <i>Supervisor, Night Nursing Service</i>
ELIZABETH GILBERT, R.N. <i>Supervisor, Medical Nursing Service</i>	HELEN PLYLER, R.N. <i>Head Nurse, Cushing Ward</i>

KATHERINE SCHACHTER, R.N. <i>Head Nurse, Halsted Ward</i>	ADA KUIKEN, R.N. <i>Head Nurse, Long Ward</i>
JULIA B. SUITT, R.N. <i>Supervisor, Out Patient Clinics</i>	MYRTLE LEONARD, R.N. <i>Supervisor, Night Nursing Service</i>
BETTY JEAN TEAL, R.N. <i>Head Nurse, Minot Ward</i>	LILLIAN G. MASON, R.N. <i>Head Nurse, Simms-Williams Ward</i>
MYRTLE WHITAKER, R.N. <i>Head Nurse, Drake Ward</i>	MARGARET MITCHELL, R.N., B.S. <i>Assistant Director of Nursing Service</i>
VERNA BEAN, R.N. <i>Head Nurse, McDowell Ward</i>	JEAN NEWELL, R.N. <i>Supervisor, Evening Nursing Service</i>
IVA O. CAIN, R.N. <i>Supervisor, Evening Nursing Service</i>	SARAH PRITCHETT, R.N., B.S. <i>Head Nurse, Howland Ward</i>
JANIE CARMAN, R.N. <i>Head Nurse, Meyer Ward</i>	MARY LEE STEELE, R.N. <i>Supervisor, Pediatric Nursing Service</i>
PAULINE DAVIS, R.N., B.S.N. <i>Head Nurse, Strudwick Ward</i>	NANCY TAYLOR, R.N. <i>Head Nurse, Cabel Ward</i>
FRANCES FARRINGTON, R.N. <i>Head Nurse, Holmes Ward</i>	ELENORA TORRENCE, R.N. <i>Head Nurse, Matas Ward</i>
LAURA HARBISON, R.N. <i>Head Nurse, Premature Nursery</i>	JOHANNA WILLIAMS, R.N. <i>Head Nurse, Prevost Ward</i>
	JANE WOODBURY, R.N. <i>Head Nurse, Nott Ward</i>

Staff

MYRTLE ANDERSON, A.B. <i>Librarian</i>	309 Elizabeth Street
BARBARA S. SILAS <i>Secretary to the Dean</i>	Second Avenue
ESTHER A. MECCA <i>Secretary to Faculty</i>	2505 Cascadilla Street
ESTHER M. WELLER <i>Records Clerk</i>	2207 Elder Street
RUTH L. WALTERS <i>Director of Residence</i>	Hanes House

Division of Nursing Education

ADMINISTRATION

ROBERTA FLORENCE BRINKLEY, Ph.D. <i>Dean of Woman's College</i>	East Campus
SUSAN CLAY, A.B., M.A. <i>Acting Associate Dean of Undergraduate Instruction, Woman's College</i>	216 Faculty Apartments
MRS. ELIZABETH ANDERSON PERSONS, A.M. <i>Director of Admissions, Woman's College</i>	612 Swift Avenue
WILLIAM H. CARTWRIGHT, Ph.D. <i>Chairman, Department of Education</i>	942 Lambeth Circle
THELMA INGLES, R.N., M.A. <i>Director, Division of Nursing Education</i>	1412 Duke Street

JOSEPHINE RAPPAFORT, R.N., M.A.
Assistant Professor of Nursing Education

2915 Monroe Avenue

HALINA A. ZUKOWSKI, R.N., M.L.
*Assistant Professor of Nursing Education and Director
 of the Program in Advanced Psychiatric Nursing*

918 Monmouth Avenue

Curriculum Committee for School of Nursing

Dean Ann Madeline Jacobansky

Dean Alan K. Manchester

Professor F. E. Bowman

Lucy Ethelyn Massey

Lelia Ross Clark

Dr. Kenneth E. Penrod

Dr. Norman Garnezy

Dr. D. T. Smith

Thelma Ingles

Dr. E. A. Stead, Jr.

Faculty Committees

Guidance: R. M. Koch, G. Bodie, M. M. Campbell, B. A. Clarke, M. L. Covington,
 E. Gilbert, B. S. Johnson, L. N. Knowles, P. W. McCaskill, M. E. Miller, A. C.
 Painter, J. Rappaport, R. L. Rodgers, M. Schumacher, J. Wilson, J. Williams,
 H. A. Zukowski.

Library: T. Ingles, M. Anderson, M. L. Covington.

Admissions: L. E. Massey, R. M. Koch, J. Rappaport, M. Schumacher, E. M. Weller,
 H. A. Zukowski.

Educational Planning: J. Rappaport, L. R. Clark, T. E. Davis, T. Ingles, L. N.
 Knowles, P. W. McCaskill, L. E. Massey, A. C. Painter, J. Wilson, M. L. Wilson,
 H. A. Zukowski.

General Information



Programs

THE School of Nursing offers two programs; a three-year program leading to a diploma in Nursing and a four-year program leading to the degree of Bachelor of Science in Nursing. Graduates from these programs are eligible to take the State Board Examination for the title of Registered Nurse. The Division of Nursing Education of Duke University offers to graduate nurses a program leading to the degree of Bachelor of Science in Nursing Education. This division is closely associated with the School of Nursing and the program is described in this bulletin, but admission is through the Woman's College.

The courses leading to the diploma are designed to provide an educational program enabling the students to develop skills, knowledge, and attitudes needed for nursing service in hospitals and homes. Included in the program are experiences in the classroom, in the laboratory, and in Duke Hospital. Students in this program participate in general campus activities and share with other undergraduates opportunities for personal development. Students who wish to work toward the diploma in Nursing must apply for admission to the School of Nursing of Duke University.

Students in the program leading to the degree of Bachelor of Science in Nursing have the opportunity to secure a background of knowledge and appreciation as well as skills and attitudes which aid them in interpreting their experiences in nursing. Included in this program are classroom and laboratory experiences with the students in the colleges and clinical experience in nursing with the students and personnel in Duke Hospital and other community agencies. Students in this program are prepared for first level positions in nursing. Graduate nurses are not admitted to this program. Students who wish to work toward the degree of Bachelor of Science in Nursing apply for admission to the School of Nursing of Duke University.

The program leading to the degree of Bachelor of Science in Nursing Education is planned for nurses holding a diploma in Nursing who wish to prepare themselves as teachers in schools of nursing or administrators in nursing service. Students who wish to work toward the degree of Bachelor of Science in Nursing Education must apply for admission to the Woman's College of Duke University.

History

The School of Nursing of Duke University was established in 1931 in association with the School of Medicine of the University and Duke Hospital through the gift of the late James B. Duke. The School of Nursing is a member of the Committee on Health Affairs which promotes the common interests of the Medical School, School of Nursing, and Duke Hospital. A curriculum Committee, appointed by the President with representation from the administration of the University, the undergraduate colleges, the Medical School and the School of Nursing supervises the curriculum of the School of Nursing.

Facilities

The facilities for instruction include the facilities available in the undergraduate, professional, and graduate schools and colleges of Duke University and the clinical facilities of Duke Hospital and of the North Carolina Cerebral Palsy Hospital. The facilities of the Veterans Hospital in Durham may be made available at some future time.

In a wing of Hanes House are located the administrative offices of the School of Nursing, a large classroom seating 100 people and equipped with audio-visual aids, a small classroom seating 50 people and equipped with a screen and movie projector, a nursing arts laboratory with equipment for nursing practice for sixteen students, a conference room for faculty committees, small discussion groups and student council meetings. The School of Nursing also uses the laboratories of the Medical School for courses in science and classrooms in the hospital for clinical nursing courses.

A reference library of 2,298 books and periodicals of special interest to students majoring in nursing is located in Hanes House. Students may use the general libraries on the East and West Campuses and the Duke Hospital Library. A collection of visual aids including films is being assembled with an index in the library for the use of students and instructors in the School of Nursing.

Duke Hospital has every modern convenience for the diagnosis, proper nursing care, welfare and comfort of the patients including 562 hospital beds, 30 bassinets, a large public out-patient department, a large private diagnostic clinic and offices and examining rooms for the doctors who serve on the staff of the hospital. There are very close relationships established between the hospital and the Health Departments in North Carolina. A system for referral of patients to the nursing service of the Health Departments has been established between the supervisors of the nursing service in the hospital and the nursing service of the Health Department.

The beds in Duke Hospital are assigned to the various services as follows: Medicine, including dermatology and neurology, has 155 beds; surgery, including urology, otolaryngology, ophthalmology, and orthopaedics, 257; obstetrics, 37; and 30 bassinets; neuropsychiatry 30; and pediatrics, 83. There are 209 private rooms and semiprivate cubicles included in the figures above; 12 air-conditioned operating rooms, 2 obstetric delivery rooms. Except for emergencies, all patients are admitted to the hospital from either the out-patient clinic or the private diagnostic clinic.

The hospital has been approved for internships and residencies by the Council on Medical Education and Hospitals of the American Medical Association.

The out-patient department has an average of 344 visits per day. All services including psychiatry carry on an active program in the out-patient departments. Students are assigned to the out-patient department during their program in the School of Nursing. The first assignment is in the first year, to give the student some knowledge of the background of her patients; subsequent assignments are planned concurrently with the experience on each service.

The Summer Session

The programs in the School of Nursing include courses in the Summer Session each year. Students in the School of Nursing have their courses approved in the School of Nursing and pre-register with the Summer Session office. Students from other colleges and universities who are admitted to the School of Nursing with advanced standing are expected to enroll in the Summer Session to make up deficiencies. Arrangements for registration are made through the office of the Dean of the School of Nursing.

The Summer Session of 1955, will include two six-week terms: Term I, June 14 to July 23; Term II, July 26 to August 31. By attending both terms it is possible for a student to earn as many as twelve semester hours of credit.

While the basic purpose of the Summer Session is to serve the academic and the professional requirements of those who are interested in their own educational advancement, the University recognizes the need of, and provides for, a varied recreation program both athletic and social.

University fees are charged at the rate of \$12 per semester hour for those admitted with advanced standing. Board at Duke Hospital is \$10.00 per week per person, room is \$4.50 per week for each occupant of a double room, and laundry is .50 a week. A bill will be sent to all pre-registered students to permit payment in advance.

Awards

THE FLORENCE NIGHTINGALE PLAQUE: The Florence Nightingale plaque is awarded to a graduating student by the Alumnae Association for leadership, scholarship and nursing skill.

THE MOSELEY AWARD: The Moseley Award of \$25.00 is given to the student in the senior class who has shown the most skill in Nursing Arts throughout her program in the School of Nursing.

Santa Filomena

Santa Filomena, the Senior Honorary of the Duke University School of Nursing, was organized in April, 1944, under the sponsorship of the 1943 class. The purpose of this organization is to recognize achievement and promote leadership.

The members are chosen from the rising Senior Class and are publicly tapped by the old members at the first meeting of the SGA in their senior year, the number chosen not exceeding nine or being less than five. Each candidate must show recognized qualities of leadership or must have made some contribution toward the betterment of the School of Nursing. She must have demonstrated superior nursing abilities and her scholastic record must be C or above throughout her first two years.

Santa Filomena strives for better interclass relations, and to promote better nursing and higher nursing standards. The specific objectives are chosen by the members each year. All proceedings of the meetings of this organization are held in secrecy as are all ceremonies except the public tapping of the new members. The Santa Filomena's flower is the white lily and the members wear a small gold Florence Nightingale lamp.

Alumnae Association

The Alumnae Association was formed for the purpose of rendering mutual help and improvement in professional work, and for the promotion of good fellowship among the graduates of the School.

The Alumnae Association co-operates with the North Carolina State Nurses' Association and the American Nurses' Association in working for the professional and educational advancement of nursing.

Alumnae Notes, a quarterly news publication, furnishes items of interest to the members of the Association.

Admission



Application for Admission

APPPLICATIONS for admission to the School of Nursing should be made to the Committee on Admissions of the School of Nursing, Hanes House, Duke University, Durham, N. C. Application forms will be sent on request.

Admission

Applicants may qualify for admission to one of the two programs in the School of Nursing as members of the Freshman Class or as students with advanced standing. Since the profession of nursing requires women with a high sense of integrity and responsibility, with culture and intelligence, whose predominant interest is service, the Admissions Committee will select the applicants who, in its opinion, seem best qualified for nursing. The Admissions Committee must have on file the records indicating the fulfillment of the following requirements before considering an applicant.

1. Graduation from high school with sixteen units of credit as indicated.
2. Aptitude and achievement tests.
3. Three recommendations.
4. Interviews.
5. Physical and dental examination.
6. Transcript of college courses for those who have attended college.

Specific Requirements

I. All applicants for admission to the School of Nursing must present at least sixteen acceptable units of secondary school credit. A unit of credit is allowed for a course of study pursued throughout an academic year at an accredited secondary school, if the course has been completed satisfactorily.

1. Twelve units must be in English, foreign language, history and social studies, mathematics, and natural science; and must include:
 - (a) English—3 units.
 - (b) Algebra—1 unit.
 - (c) Plane geometry—1 unit.

2. The four remaining units are elective and may be selected from those subjects for which the school allows credit toward graduation; but it is recommended that they also be selected from the five subject fields listed above.

Other units offered in subjects not included in this list will be considered for acceptance on the basis of full statements transmitted with the applicant's record from the school recommending her.

II. Satisfactory scores on a battery of aptitude and achievement tests.

III. Three recommendations, two of which must come from recent high school or college instructors.

IV. Interviews with two members of the Duke University School of Nursing faculty, whenever possible.

V. Records of recent physical and dental examination.

A complete physical examination is given at Duke Hospital during the Orientation Period and required before final acceptance is made to the school. The examination also includes a chest X-ray, blood and urine studies and skin tests.

ADMISSION TO ADVANCED STANDING IN THE SCHOOL OF NURSING: An applicant for advanced standing must have fulfilled the equivalent of the requirements for admission to the Freshman Class, must present official certificates of all work completed in other institutions, and must have an honorable dismissal from each institution previously attended. Credit for work completed will be determined in relation to the curriculum requirements of the School of Nursing. Applicants admitted to advanced standing may make up deficiencies for admission to the second year by attending the Summer Session.

Applicants for advanced standing in the School of Nursing should present, as far as possible, subjects corresponding to those required by the School. They may not, during their first semester, register for more than the minimum number of hours required of the class which they enter, except by permission of the Dean of the School of Nursing.

Transfer credits are tentatively evaluated pending the completion of two semesters of work in residence. To validate provisional credits the student must earn at least an average of C in a normal load of work. Transfer grades of C or above are rated at one quality point per credit hour when validated. Credits with grades of D are not acceptable.

The maximum amount of credit acceptable from a junior college is 60 semester hours, exclusive of physical education. No credit is given for work completed by correspondence, and credit for no more than six semester hours is allowed for extension courses. Any extension work accepted must be approved through the dean.

Financial Information and Living Accommodations



FEES paid by students and nursing services of the students to the hospital cover only a part of the cost of their instruction and maintenance and the operation of the University. Income from endowment and contributions from alumni, alumnae, and other public-spirited men and women meet the balance.

Fees and Estimated Expenses—Diploma Program

A registration fee of \$20.00 is required of all new students. This fee is payable only once; it is not refundable. The general fee is in lieu of special fees usually charged for matriculation, use of laboratories, student health service, commencement, etc.

One half of the first year tuition fee and general fee is payable on admission, and the balance in equal payments at the beginning of the fall and spring semesters. Tuition and general fees for the subsequent years is payable in equal payments at the beginning of the fall and spring semesters. An activities fee of \$15.00 is charged each year. Payment of uniforms is made directly to the uniform company. Each student is responsible for payment of necessary replacements.

	<i>Summer Session 12 Weeks</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>
Tuition		\$100.00	\$100.00	\$100.00
*General Fee		25.00	25.00	25.00
†Room	\$ 63.00			
†Board	120.00			
†Laundry	6.00			
Books		40.00	10.00	10.00
Activities		15.00	15.00	15.00
Uniforms	71.55			13.70
Room Key Deposit ...	1.00			
	<u>\$261.55</u>	<u>\$180.00</u>	<u>\$150.00</u>	<u>\$163.70</u>

A student will not attend classes unless she has complied with all regulations concerning registration and payment of charges for a term.

After the first Summer Session, Duke Hospital provides board, room and laundry for students in the School of Nursing in return for

* This fee becomes effective September, 1955.

† These charges become effective June, 1956.

nursing service which the student contributes during her assignments in the hospital.

Students may have bills sent to parents or guardians provided the Treasurer has been notified in writing with sufficient antecedence. Failure of a student or of a parent or guardian to pay bills on the dates scheduled will debar the student from class attendance until her account is settled in full; subsequent withdrawal does not entitle her to a refund. A student is not considered as a candidate for graduation unless she has settled with the Treasurer for all her indebtedness to the University. A student who has not settled all her bills with the Treasurer is not allowed to stand the final examinations of the specific term.

Refunds of tuition and other fees are made to students who withdraw within 14 days after the beginning of the semester. On and after the fifteenth day, all fees are considered as earned and no refunds are made.

Students are entitled to one transcript free of charge. Additional copies are supplied at \$1.00 each. Records are not released when the Treasurer's office reports an unpaid account.

Fees and Estimated Expenses—Degree Program

A registration fee of \$20.00 is required of all new students. This fee is payable only once; it is not refundable. The general fee is in lieu of special fees usually charged for matriculation, use of laboratories, student health service, commencement, etc. One-half of the tuition and general fees are payable at the beginning of each semester.

	<i>Year First</i>	<i>Summer Session 6 Weeks</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>
Tuition	\$ 450.00		\$ 250.00	\$250.00	\$250.00
General Fee	150.00		75.00	75.00	75.00
Room Rent	210.00	\$ 31.50	210.00		
Board	400.00	60.00	400.00		
Laundry	20.00	3.00	20.00		
Books	40.00	10.00	40.00	40.00	10.00
Activities	15.00		15.00	15.00	15.00
Uniforms		71.55			13.70
Room Key Deposit	1.00				
	<u>\$1,286.00</u>	<u>\$176.05</u>	<u>\$1,010.00</u>	<u>\$380.00</u>	<u>\$363.70</u>

A student will not attend classes unless she has complied with all regulations concerning registration and payment of charges for the term.

Payment of uniforms is made directly to the uniform company. Each student is responsible for payment of necessary replacements. After the second year, Duke Hospital provides board, room and laun-

dry in return for nursing service which the student contributes during her assignment in the hospital.

Students may have their bills sent to parents or guardians provided the Treasurer has been notified in writing with sufficient antecedence. Failure of a student or of a parent or guardian to pay bills on the dates scheduled will debar the student from class attendance until her account is settled in full; subsequent withdrawal does not entitle her to a refund. A student is not considered as a candidate for graduation unless she has settled with the Treasurer for all her indebtedness to the University. A student who has not settled her bills with the Treasurer is not allowed to stand the final examinations of the specific term.

Refunds of tuition and other fees are made to students who withdraw within 14 days after the beginning of the semester. On and after the fifteenth day all fees are considered as earned and no refunds are made.

Students are entitled to one transcript free of charge. Additional copies are supplied at \$1.00 each. Records are not released when the Treasurer's Office reports an unpaid account.

Scholarships and Loans

SCHOLARSHIP AWARDS: A limited number of scholarships are awarded annually to students who evidence qualities which might predict excellence in Nursing.

LOANS: A number of loan funds have been established for the benefit of the students of Duke University. The most important and largest is the Angier B. Duke Memorial Student Loan Fund, which is administered through an advisory committee of officers of the University. The amount available to be loaned depends upon the income from investments and on the amount repaid on loans previously made to students. The same committee of officers administers the other endowed loan funds of the University.

The committee in approving loans selects those students who, from the standpoint of character, scholastic attainment, personality and degree of financial need, are deserving of consideration.

Residence

Students are housed in a fireproof residence located near the hospital. Rooms are adequately equipped with blankets and linen, making further provision by the student unnecessary. Life in the dormitory is under the regulations established by the Student Government Association with advice from the faculty. The dormitory, Hanes

House, is new and planned for comfortable living. A Student Handbook including dormitory regulations is issued to each student.

Students in the degree program pay for rooms in Hanes House during the first two years. During the academic year the rental charge for a single room is \$130.00 per semester. The rental charge for a double room is \$105.00 per semester. The charge for laundry for one semester is \$10.00. The rental charges for Summer Session are included under the description of that term on Page 16.

Board for these students may be secured at the hospital for \$200.00 for the semester. Students may prefer to eat at the University cafeterias with multiple choice menus. The cost for the academic year ranges from \$375.00 to \$500.00 depending on the taste of the individual. In the Men's Graduate Center near Hanes House is a cafeteria with multiple choice menus and a Coffee Lounge where sodas and sandwiches are served from 11:30 A.M. to 11:00 P.M. This is closed on Sunday.

Board, room and laundry is provided by Duke Hospital for students in the diploma program after the first Summer Session and for students in the degree program after the second year.

General Regulations



Orientation Program

ALL FRESHMEN and transfer students are required to participate in the Activities of Orientation Week. The program includes general ability, achievement, and placement tests, orientation lectures, physical examinations, social events, special religious services, registration, and enrollment.

The University considers the planning of a course of study to be of primary importance. With the results of the several tests which all freshmen take, courses are planned according to the ability, achievements, and goals of the individual student. New students who miss the whole or a part of the Orientation Program place themselves at a serious disadvantage at the very outset of their college career.

Health Regulations

The School has general supervision of the student's health. All physical defects, such as defective vision, dental needs, etc., must be corrected before admission to the School. The student must have been immunized against typhoid fever and vaccinated against smallpox during the current year. All students are required to pass a physical examination before final acceptance to the School of Nursing, and at intervals thereafter, a final examination being given at the end of the course. Students whose condition needs further observation may be admitted tentatively, but must cancel their application if later findings prove them physically unfit for nursing.

Students are allowed three weeks' sick leave during the three years of clinical practice.

Health Program

With the exceptions noted below, full medical and surgical care is furnished to all regularly matriculated student nurses. It includes hospitalization in the Student Nurses Infirmary or in a private nursing unit according to the preference of the student or the seriousness of the illness. Medical and Surgical care, drugs, dressings, x-ray, laboratory, and staff but no private nursing is furnished without charge. Refraction of eyes, treatment of teeth and of all chronic and pre-existing condi-

tions, such as diseased tonsils, hernias, pilonidal cysts and other elective surgery, chronic skin conditions, endocrine disturbances, etc., and accidents or illnesses occurring during vacations or while off the campus, are not included in this service. The cost of any necessary braces and orthopaedic appliances, as well as of special nursing, must be borne by the student and blood used for transfusions must be paid for or replaced. If the student has insurance providing hospital, medical or surgical benefits, the benefits shall be applied to the cost of her medical care.

Advisory consultation with a Psychiatrist is available through the Dean of Nursing at no expense to the student but office visits for psychotherapeutic interviews cannot be included in this service.

First year students in the four year degree program are not furnished maintenance by the hospital and will be asked to pay for board while hospitalized. Insurance benefits, if any, will be used to cover this.

A nurses health office is maintained in the student nurses' dormitory for the purpose of treating ambulatory cases. Admissions to the hospital are arranged through this office.

Grading

Grades are reported so as to indicate one of four things:

(1) *Passed.* A, B, C, and D are all passing grades. The letters are intended to indicate the following quality of work: A, exceptional; B, superior; C, medium; D, passing.

(2) *Failed.* A grade of F indicates that the student has failed the course, and in order to receive credit for the course he must repeat the work in class.

(3) *Incomplete.* (a) A grade of I may be reported by the instructor if for any reason he is unable to report the final grade at the regular time. (b) Incomplete courses must be completed before the close of the succeeding semester; otherwise the I is recorded as F, and the course must be repeated in class if the student is to receive credit for it.

(4) *Absent from final examination.* (a) The grade X indicates that the student was absent from the regularly scheduled examination.

QUALITY CREDIT: The requirements for the degree are computed not only in semester hours but also in quality points. Quality points are earned by a student on the basis of her grades: for an A she receives three quality points for each semester hour; for a B, two quality points for each semester hour; for a C, one quality point for each semester hour; for a D, no quality points; for an F, a loss of one quality point for each semester hour. Credit for at least 125 quality points, exclusive of physical education, is required for the degree of Bachelor of Science in Nursing.

Readmission

Students who are absent for more than one month on account of illness or have leave of absence may be readmitted to the same or a succeeding class at the discretion of the faculty.

Leave of Absence

Students are not expected to leave the School because of family or other personal reasons. Absence from the School is granted only in extreme cases. If a student is obliged to be away for a period exceeding four weeks, her return must be approved by the Faculty of the School and the Dean of the School of Nursing will determine the date of her return and the question of resuming her place in her original class.

Dismissal

The faculty of the School of Nursing may, at any time, place a student on probation or release her from the School if, in its opinion, she does not have the qualifications necessary for the profession. A student of the freshman class to remain in the degree program must pass at least six semester hours of work in her first semester and eighteen semester hours in her first academic year.

Requirements of Programs in Nursing



Programs of the School of Nursing

THE School of Nursing offers two programs for students wishing to prepare for the profession of nursing. The diploma program covers a period of three calendar years with one month of vacation each year. At the completion of this program, the student receives the diploma in nursing and is then eligible for the examinations given by the North Carolina State Board of Nurse Examiners.

The program leading to the degree of B.S. in Nursing covers a period of four years; one academic year and one summer term and three calendar years. At the completion of this program, the student receives the degree of B.S. in Nursing and is then eligible for the examinations given by the North Carolina State Board of Nurse Examiners. The School is fully approved by the North Carolina Joint Committee on Standardization.

Program I Leading to a Diploma in Nursing

To fulfill the requirements for a diploma in Nursing a student must complete 67 semester hours as outlined below, and show proficiency in the practice of nursing.

FIRST YEAR

SUMMER SESSION

<i>First Term</i>	S.H.	<i>Second Term</i>	S.H.
Chemistry.....	3	Zoology.....	3
Orientation to the Health Field..	2	Introduction to Nursing.....	1
	<hr/> 5		<hr/> 4

ACADEMIC YEAR

<i>First Semester</i>	S.H.	<i>Second Semester</i>	S.H.
Anatomy & Physiology.....	6	Medical & Surgical Nursing....	3
Physiological Chemistry.....	3	Microbiology.....	3
Nutrition.....	3	Nursing Arts.....	3
Nursing Arts.....	3	Social Psychology.....	4
Medical-Surgical Nursing.....	3		<hr/> 13
	<hr/> 18		

SECOND YEAR

SUMMER SESSION

	S.H.
Medical & Surgical Nursing.....	3

*ACADEMIC YEAR

First Semester	S.H.	Second Semester	S.H.
*Medical & Surgical Nursing including O. R. & Diet Therapy.....	4	*Obstetric Nursing.....	4
Child Development.....	3		
	<hr/> 7		

THIRD YEAR

*SUMMER SESSION

	S.H.
*Pediatric & Communicable Disease Nursing.....	4

†ACADEMIC YEAR

First Semester	S.H.	Second Semester	S.H.
†Psychiatric Nursing.....	4	†Advanced Medical & Surgical Nursing with Seminar on Nursing Problems.....	2
	<hr/> 4	Social Foundations of Nursing Education.....	3
			<hr/> 5

* Class divided into four sections and rotated on these four services.

† Class divided into two sections and rotated on the two services.

Description of Courses—Diploma Program

BIOLOGICAL AND PHYSICAL SCIENCE

ANATOMY AND PHYSIOLOGY.—The student gains an understanding and appreciation of the way body structure and body functions serve to maintain and promote health. These enable the student to practice and teach good hygiene and to comprehend anatomical and physiological pathology intelligently. Audio-visual aids are used extensively and in conjunction with laboratory work the anatomical structures are demonstrated on dissected human specimens and certain physiological principles are demonstrated. 6 s.h.

PROFESSOR MARKEE AND STAFF;
PROFESSOR F. G. HALL AND STAFF

CHEMISTRY.—A course in the fundamentals of general inorganic chemistry with particular emphasis on the needs of the student nurse. A brief introduction to organic chemistry. 3 s.h.

ASSOCIATE PROFESSOR TAYLOR

PHYSIOLOGICAL CHEMISTRY.—This course is designed to aid the student in understanding the chemical mechanisms of the human body both in health and in disease. The student also acquires knowledge concerning the chemical basis of diagnosis and therapy. 3 s.h.

ASSOCIATE PROFESSOR TAYLOR

MICROBIOLOGY.—From the learning experiences included in this course the student is enabled to understand and appreciate the role in the prevention of microbial disease. 3 s.h.

ASSISTANT PROFESSOR POPE

PHYSICAL EDUCATION.—First year students are required to elect either swimming or basketball.

ASSISTANT PROFESSOR W. S. PERSONS

ZOOLOGY.—A course in general zoology especially adapted for those preparing to enter the profession of nursing. During the course emphasis will be placed on the principles of zoology as they apply to a vertebrate animal; the frog will be used as the type animal.

ASSOCIATE PROFESSOR DUKE

SOCIAL SCIENCE

N2. INTRODUCTION TO NURSING.—Designed to give the student an appreciation of the historical development of some of the present concepts in nursing. 1 s.h.

ASSOCIATE PROFESSOR INGLES

SOCIAL PSYCHOLOGY.—Through a study of the role of social and cultural patterns in their interaction with the individual personality and through an understanding of behavior development and personality adjustment, it is hoped that the student may advance toward maximum personal, social and professional maturity. By exploration of social patterns she learns something of the structure of contemporary society. Through a study of the techniques used in understanding and getting along with others, the student becomes better able to use these techniques in her own contacts with people. 4 s.h.

ASSISTANT PROFESSOR KOCH

CHILD DEVELOPMENT.—A study of principles of human growth and development with special emphasis on the understanding of children's needs, learning and behavior at various levels of development. Importance of infancy and pre-school years in the development of the individual. Planned especially for nurses. Two lectures and one laboratory period. 3 s.h.

ASSISTANT PROFESSOR REICHENBERG-HACKETT

N160. SOCIAL FOUNDATIONS OF NURSING EDUCATION.—This course is designed to help the student consider the opportunities open to her, her special aptitudes and abilities, her responsibilities, the fields of work for which she presents potentially the best qualifications and how to get started in a professional career. She is helped to see the place of nursing in the social and economic world of today. Emphasis is placed on the need for cooperation between all professions if satisfactory conditions for the maintenance of health and the prevention of disease are to be realized. 3 s.h.

PROFESSOR JACOBANSKY

NURSING AND ALLIED ARTS

Nursing 92 includes 20 hours a week of correlated clinical experience. Nursing 93, 120, 130, 140, 170 and 190, include 34 hours a week of correlated clinical experience.

N1. ORIENTATION TO THE HEALTH FIELD.—An introduction to basic health needs of the community and the agencies and programs designed to meet them. 2 s.h.

ASSISTANT PROFESSOR MASSEY

N61-62. NURSING ARTS.—A study of the fundamentals of healthful living and their application to basic nursing care in the home and in the hospital. Considers the nursing needs of individual patients and provides opportunity to plan and give patient care. 6 s.h.

ASSISTANT PROFESSOR RAPPAPORT, MISS KNOWLES, AND STAFF

Nutr. 53. NORMAL NUTRITION AND DIETETICS.—This course considers the nutritive requirements for individuals in different stages of development, and in different occupations. The methods of supplying foods conforming to the individual nutritional needs are given for varying income levels. Actual foods are compared according to their contribution of specific nutrients, and in relation to their place in the daily diet. 3 s.h.

MISS EVANS

N92-93. MEDICAL AND SURGICAL NURSING.—A study of basic principles underlying nursing care of patients with common medical and surgical conditions. Pharmacology, nutrition in disease, and therapeutics are included. 9 s.h.

ASSOCIATE PROFESSOR INGLES AND STAFF; DR. HART
AND STAFF; DR. STEAD AND STAFF

120. PEDIATRICS AND COMMUNICABLE DISEASE.—This course is designed to help the student understand children, their response to illness, and the therapy involved in their care so that she can assume her role in child health promotion. A developmental approach is used throughout the course with emphasis on the child as a member of the family. The acute communicable diseases of childhood are included.

MRS. CLARKE; DR. HARRIS AND STAFF

N130. OBSTETRIC NURSING.—Considers normal and abnormal phases of the reproductive cycle basic to nursing care of the mother and the newborn child including the premature infant; the effect of reproduction upon individual and family. 4 s.h. Miss J. WILSON, Miss DAVIS, AND Miss KIERNAN; DR. CARTER AND STAFF

N140. MEDICAL AND SURGICAL NURSING.—A continuation of Nursing 93. A discussion of principles of surgical aseptic technique basic to nursing practice in the operating room and practice in nutrition in disease is included in this course. 4 s.h. ASSOCIATE PROFESSOR INGLES AND STAFF; Miss CAMPBELL, Miss EVANS; DR. HART AND STAFF; DR. STEAD AND STAFF

N170. PSYCHIATRIC NURSING.—Discussion of the principles of psychiatric nursing and the functions and responsibilities of the nurse in the total care of the psychiatric patient with emphasis on mental hygiene and care and rehabilitation of the mentally ill. 4 s.h. ASSISTANT PROFESSOR ZUKOWSKI, PROFESSOR BUSSE AND STAFF

N190. ADVANCED MEDICAL AND SURGICAL NURSING.—Designed to clarify and broaden understanding of basic principles requisite for nursing care. Conference and seminars. 2 s.h. ASSOCIATE PROFESSOR INGLES

Program II Leading to a B.S. in Nursing

To fulfill the requirements for the degree of B.S. in Nursing, a student must complete 127 semester hours as outlined below, earn 127 quality points, and show proficiency in the practice of nursing.

The requirements for the degree of Bachelor of Science in Nursing are based on the principle that the student will derive the maximum benefit if the program includes a broad distribution of studies among representative fields.

For graduation with the degree of Bachelor of Science in Nursing, the following course work must be completed.

UNIFORM COURSE REQUIREMENTS	S.H.
English	6
Natural and Biological Science	23
Religion	6
Social Science and History	24
Elective (Literature, Music, Art Philosophy preferred)	6
Physical Education	2
Major (Nursing and related work).....	60
Total	127

These requirements are described in detail below.

ENGLISH, 6 s.h.—This requirement is met by the completion of English 1-2. Students who demonstrate proficiency in English usage may be allowed to substitute 55 or 56 for English 1.

NATURAL AND BIOLOGICAL SCIENCE, 23 s.h.—To satisfy this requirement a student must complete laboratory courses in General Chemistry (3 s.h.), Physiological Chemistry (3 s.h.), Zoology (8 s.h.), Anatomy and Physiology (6 s.h.), and Microbiology (3 s.h.).

RELIGION, 6 s.h.—To meet this requirement 6 semester hours must be chosen from Religion 1, 2, 51, 52, 91, 93, 94, 101, 103, 104, 114, 130, 132, 181, 182.

SOCIAL SCIENCE AND HISTORY, 24 s.h.—To satisfy this requirement students must take Education 88 and 118, Psychology 116 and Sociology 91, 92 and N151.

The remaining 6 s.h. may be selected from History 1-2 or 51-52 and Political Science 11-12 or 61-62 (Students who do not present for entrance 2 acceptable units of History must select History).

LITERATURE, MUSIC, ART, AND PHILOSOPHY, 6 s.h.—This requirement can be satisfied by a total of 6 semester hours in courses in English or American literature, foreign literature courses numbered above 100, literature courses in translation, courses in aesthetics, art, music, and courses in Philosophy (except 48, 103, 104, 109, 199).

PHYSICAL EDUCATION, 2 s.h.—In the School of Nursing, Physical Education is required during the first year and must be completed by the end of the first year.

MAJOR AND RELATED WORK, 60 s.h.—This requirement is met by completing courses in the School of Nursing in accordance with the regulations described.

The work is divided as follows:

FIRST YEAR

<i>First Semester</i>			S.H.	<i>Second Semester</i>			S.H.
Eng	1	Freshman Composition....	3	Eng	2	Freshman Composition....	3
*Hist	1	Historical Background of the World Today.....	3	*Hist	2	Historical Background of the World Today.....	3
*Pol Sc	11	The American System of Government.....	3	*Pol Sc	12	The American System of Government.....	3
Relig	1	The English Bible.....	3	Relig	2	The English Bible.....	3
N	1	Orientation to the Health Field.....	2	Micro	4	Microbiology.....	3
Zool	1	General Zoology.....	4	N	2	Introduction to Nursing...	1
		Physical Education.....	1	Zool	2	General Zoology.....	4
			<u>16</u>			Physical Education.....	<u>1</u>
							<u>18</u>

SUMMER SESSION (6 WEEKS)

First Term

		S.H.
Chem	50	Chemistry.....
Ed	88	Educational Psychology....
		<u>3</u>
		<u>3</u>
		<u>6</u>

SECOND YEAR

<i>First Semester</i>			S.H.	<i>Second Semester</i>			S.H.
Anat	51	Anatomy & Physiology....	6	N	92	Medical & Surgical Nursing.	3
Chem	51	Physiological Chemistry....	3	Nutr	53	Nutrition.....	3
N	91	Medical & Surgical Nursing	3	Ed	118	Educational Psychology— Developmental.....	3
N	61	Nursing Arts.....	3	N	62	Nursing Arts.....	3
Soc	91	General Sociology.....	3	Soc	92	General Sociology.....	3
			<u>18</u>				<u>15</u>

SUMMER SESSION

<i>First Term (6 weeks)</i>			S.H.	<i>Second Term (10 weeks)</i>			S.H.
Elective		Literature, Music, Art or Philosophy.....	3	N	95	Introduction to the Field of Social Work.....	3
N	93	Medical & Surgical Nursing (cont. through summer).....	3				
			<u>3</u>				<u>3</u>
			<u>6</u>				

THIRD YEAR

<i>First Semester</i>		S.H.	<i>Second Semester</i>		S.H.
N 120	Pediatric & Communicable Disease Nursing..	6	N 130	Obstetric Nursing.....	6
†Soc N151	Family Relationships....	3	†Psych 116	Psychology of Adjustment.....	3
		<u>9</u>			<u>9</u>

SUMMER SESSION

	S.H.
N140 Medical & Surgical Nursing including O. R. & Diet Therapy.....	6
	<u>6</u>

FOURTH YEAR

<i>First Semester</i>		S.H.	<i>Second Semester</i>		S.H.
N 160	Social Foundations of Nursing Education.....	3	N 180	Aspects of Public Health Nursing.....	6
N 170	Psychiatric Nursing.....	6		Elective above 100 level.....	3
		<u>9</u>			<u>9</u>

SUMMER SESSION

	S.H.
N190 Advanced Medical & Surgical Nursing with Seminar on Nursing Problems.....	3

In the junior year the class is divided into three sections and rotated in the three major nursing courses.

In the senior year the class is divided between Psychiatry and Advanced Medical and Surgical Nursing.

Description of Courses—Degree Program

UNDERGRADUATE COLLEGES

EDUCATION

88. EDUCATIONAL PSYCHOLOGY: LEARNING AND MEASUREMENT.—This course and Education 118 constitute a general introduction to the field of Educational Psychology. This course deals with (1) the psychology of learning, including: the nature of the learning process; general principles or laws of learning; the course of learning and forgetting; factors influencing efficiency in learning and retention; and the transfer of training; and (2) measurement, including: the basic concepts in the measurement of intelligence; standardized achievement tests; the extent and significance of individual differences in ability and performance. Opportunity will be afforded for examination and study of a variety of tests of intelligence and achievement. *Either semester. 3 s.h. (E)*

ASSOCIATE PROFESSORS EASLEY AND RUDISILL;
AND ASSISTANT PROFESSOR GEHMAN

118. EDUCATIONAL PSYCHOLOGY: PSYCHOLOGICAL DEVELOPMENT.—This course traces the psychological development of the individual from infancy to maturity. The principal topics considered are: the interdependence of hereditary and environmental factors in development, the nature of the development process, the establishment of the early basic patterns of behavior, changes and conditions producing these changes throughout childhood and adolescence to maturity, and

* Choice possible.

† One-half of class each semester.

the origin and treatment of minor behavior disorders. To the degree practicable, students will observe children in typical and atypical situations as a means of securing concrete data on the problems treated in the course. Not open to students who have had Psychology 121 or 126. Prerequisite: three semester hours in psychology or educational psychology. *Either semester.* 3 s.h. (E)

ASSOCIATE PROFESSOR EASLEY AND
ASSISTANT PROFESSOR GEHMAN

ENGLISH

L. ENGLISH FUNDAMENTALS.—All freshmen whose scores on the placement tests indicate that they are not ready for English 1 must take this course. Students who fail in English L must repeat the course. Students who have earned credit in English L must also take English 1 and 2. 3 s.h. (W)

ASSISTANT PROFESSOR JORDAN AND MR. NEWELL

1-2. ENGLISH COMPOSITION.—All freshmen are required to take course 1 and course 2.

Students who fail in English 1 or 2 must repeat the course in the following semester. Students in courses 1 and 2 who fail to make an average of "C" or better are strongly advised to earn credit for an additional course in English composition. 6 s.h. (E & W)

PROFESSORS BEVINGTON AND WARD; ASSOCIATE PROFESSORS BOWMAN, HARWELL, MITCHELL, PATTON, AND WHITE; ASSISTANT PROFESSORS BEVINGTON, BUDD, JORDAN, AND POTEAT; DRs. BOWERS, BROOKS, FRASER, KOTTLER, LANE, MAJOR, REICHARD, SMITH, AND WICKES; MISS LIBBY; MESSRS. HOLMES, KEIRCE, NEWELL, TEETS, AND WOODS

ENGLISH AND AMERICAN LITERATURE AND LANGUAGE

55, 56. REPRESENTATIVE WRITERS.—The following works are studied in the first semester: Chaucer's Prologue to *The Canterbury Tales* and at least two tales, Shakespeare's *1 Henry IV*, *King Lear*, and one other play, the English Bible (selections), Milton's *Paradise Lost* (selections) and some of the shorter poems; in the second semester: Pope's poems (selections), Fielding's *Joseph Andrews* or *Tom Jones*, selections from Keats's or Wordsworth's poems, selections from Browning's or Arnold's poems, Thackeray's *Vanity Fair* or Hardy's *The Mayor of Casterbridge*, selections from Yeats's poems, two plays by Shaw or a twentieth-century British or American novel. 6 s.h. (E & W)

PROFESSORS BEVINGTON, BLACKBURN, BOYCE, IRVING, SANDERS, AND TURNER;
ASSOCIATE PROFESSORS BOWMAN, MITCHELL, AND PATTON; ASSISTANT
PROFESSORS BEVINGTON AND POTEAT; DRs. BOWERS, FRASER,
KOTTLER, LANE, REICHARD, SMITH AND WICKES

HISTORY

1, 2. HISTORICAL BACKGROUND OF THE WORLD TODAY.—This course is an introduction to the study of modern history with special reference to the issues in the modern world. Topics selected for emphasis are: the contest between liberty and authority in the modern state; changing economic organization and theory—capitalism and the challenges to it; the problems of peace and war among the states; the changing faith men live and die by. Beginning about 1500 with the rise of the European dynastic states, the story is pursued in the first semester to approximately 1871, and in the second through the two great world wars. The central theme in both semesters is the expansion of the influence of Western Europe throughout the world, with some attention to the rise of the United States as a world power. 6 s.h. (W & E)

Sophomores and juniors are not admitted to this course. One semester of the course may be counted as a general elective but not as fulfilling the minimum uniform requirements or, except as provided above, as a basis of further work in history.

ASSOCIATE PROFESSORS FERGUSON, PARKER, AND ROPP; ASSISTANT
PROFESSORS ACOMB AND COLTON; DRs. DURDEN,
OLIVER, WHITESIDE, AND YOUNG

51, 52. HISTORICAL BACKGROUND OF THE WORLD TODAY.—An introductory course for sophomores, juniors, and seniors dealing with the topics indicated in the description of course 1-2. 6 s.h. (W & E)

PROFESSOR CURTISS; ASSOCIATE PROFESSOR ROPP; ASSISTANT PROFESSORS ACOMB AND COLTON; DRS. DURDEN, OLIVER, WHITESIDE AND YOUNG

PHILOSOPHY

49. ETHICS.—An introductory consideration of basic ethical concepts and principles as developed in European and American thought and culture. 3 s.h. (E & W)

PROFESSORS BAYLIS AND NEGLEY; ASSISTANT PROFESSORS BUCK AND WELSH

POLITICAL SCIENCE

11-12. THE AMERICAN SYSTEM OF GOVERNMENT.—An introductory study of the principles and operation of the American government in the light of the present world position of the United States. (Only open to Freshmen.) 6 s.h. (E & W)

DRS. HALL AND SINDLER

[Students completing 11 in the spring semester should take course 62.]

61-62. AMERICAN GOVERNMENT AND POLITICS.—A study of the American constitutional and political system. Among other topics attention is given to the development of the constitution, federal-state relations, political parties and the organization and functions of the national, state and local governments. 6 s.h. (W & E)

PROFESSOR CONNERY; ASSOCIATE PROFESSOR SIMPSON; ASSISTANT PROFESSOR CHEEK; DRS. HALL AND SINDLER; MR. ULMER

[Not open to freshmen or to students who have had courses 11-12 or 63-64.]

REQUIRED PHYSICAL EDUCATION

Two semester hours to be completed in two semesters are included in the 127 hours required for graduation.

At the beginning of the freshman year, after a series of tests have been given, individual conferences are held and each student is guided into the type of activity she most needs, as determined from the evaluation of the test scores and the results of the conference. This course continues for half the semester after which all freshmen take body mechanics and social recreation for the remainder of the semester.

Every student will take one semester of elected activity offered by the Department.

PSYCHOLOGY

116. PSYCHOLOGY OF ADJUSTMENT.—The course is planned to give an adequate understanding of problems of adjustment and of mental hygiene. Lectures and discussions cover an application of the principles and findings of normal and abnormal psychology as these relate to the adjustment of the average individual in our changing society; a survey of the principles of mental hygiene; discussions of current socio-cultural trends significant for individual adjustment. 3 s.h. (E)

ASSISTANT PROFESSOR REICHENBERG-HACKETT

RELIGION

1. THE ENGLISH BIBLE.—A survey of the contents of the Old Testament books in the light of their origin in the history and religion of the Hebrew people. 3 s.h. (E & W)

PROFESSOR CRUM; ASSISTANT PROFESSORS MANSCHRECK AND PRICE; DR. BENNETT; MESSRS. DANIELS AND OSBORN

2. THE ENGLISH BIBLE.—A study of the personalities and literature of the New Testament against their Jewish, Hellenistic and Roman background. Although Religion 1 is not a prerequisite, it will be an aid to the student to complete 1 before taking 2. 3 s.h. (E & W.)

ASSOCIATE PROFESSOR PHILLIPS; ASSISTANT PROFESSORS MANSCHRECK AND PRICE; DR. BENNETT; MESSRS. DANIELS AND OSBORN

51. THE ENGLISH BIBLE.—An introductory course in the Old Testament for sophomores and juniors. (See description of Religion 1.) Students may not receive credit for both 51 and 1. 3 s.h. (E & W)

PROFESSOR MYERS; ASSISTANT PROFESSORS BRADLEY, MANSCHRECK,
PRICE, AND SALES; MESSRS. DANIELS AND OSBORN

52. THE ENGLISH BIBLE.—A survey course in New Testament life and literature for sophomores and juniors. (See description of Religion 2.) It will be to the advantage of the students to take Religion 1 or 51 before taking 52. Students may not receive credit for both 52 and 2. 3 s.h. (E & W)

PROFESSOR MYERS; ASSOCIATE PROFESSOR PHILLIPS; ASSISTANT PROFESSORS
BRADLEY, MANSCHRECK, AND SALES; MESSRS. DANIELS AND OSBORN

SOCIOLOGY

91-92. GENERAL SOCIOLOGY.—An introduction to the scientific study of social life; its origin, evolution and organization as illustrated in the study of a number of concrete social problems. 6 s.h. (E & W)

PROFESSOR JENSEN; ASSOCIATE PROFESSOR SCHETTLER; ASSISTANT
PROFESSORS ROY AND WHITRIDGE; MESSRS HOWELL,
McNURLEN, AND TUMBLIN

Sociology N151. FAMILY RELATIONS.—This course has two objectives. First, it seeks to familiarize students with those basic facts and problems in family life of which an understanding is essential to successful professional work by nurses. Second, the course seeks to provide students with such information and insights as may aid them in making successful adjustments in their own courtship and marriage. Either semester. 3 s.h.

INSTRUCTOR TO BE ANNOUNCED.

ZOOLOGY

1. ANIMAL BIOLOGY.—The principles of biology as applied to animals. 4 s.h.
(W & E)

ASSOCIATE PROFESSORS HUNTER AND ROBERTS AND STAFF

2. GENERAL ZOOLOGY.—A brief survey of the animal kingdom. Prerequisite:
Zoology I. 4 s.h. (W & E)

PROFESSOR BOOKHOUT AND ASSOCIATE
PROFESSOR HUNTER AND STAFF

SCHOOL OF NURSING

BIOLOGICAL AND PHYSICAL SCIENCE

Anat. 51. ANATOMY AND PHYSIOLOGY.—The student gains an understanding and appreciation of the way body structure and body functions serve to maintain and promote health. These enable the student to practice and teach good hygiene and to comprehend anatomical and physiological pathology intelligently. Audio-visual aids are used extensively and in conjunction with laboratory work the anatomical structures are demonstrated on dissected human specimens and certain physiological principles are demonstrated. 6 s.h.

PROFESSOR MARKEE AND STAFF;
PROFESSOR F. G. HALL AND STAFF

CHEMISTRY

Chem. 50. CHEMISTRY.—A course in the fundamentals of general inorganic chemistry with particular emphasis on the needs of the student nurse. A brief introduction to organic chemistry. 3 s.h.

ASSOCIATE PROFESSOR TAYLOR

Chem. 51. PHYSIOLOGICAL CHEMISTRY.—This course is designed to aid the student in understanding the chemical mechanism of the human body both in health and in disease. The student also acquires knowledge concerning the chemical basis of diagnosis and therapy. 3 s.h.

ASSOCIATE PROFESSOR TAYLOR

Micro. 4. MICROBIOLOGY.—From the learning experiences included in this course the student is enabled to understand and appreciate the role in the prevention of microbial disease. 3 s.h.

ASSISTANT PROFESSOR POPE

SOCIAL SCIENCE

N2. INTRODUCTION TO NURSING.—Designed to give the student an appreciation of the historical development of some of the present concepts in nursing. 1 s.h. ASSOCIATE PROFESSOR INGLES

N160. SOCIAL FOUNDATIONS OF NURSING EDUCATION.—This course is designed to help the student consider the opportunities open to her, her special aptitudes and abilities, her responsibilities, the fields of work for which she presents potentially the best qualifications and how to get started in a professional career. She is helped to see the place of nursing in the social and economic world of today. Emphasis is placed on the need for cooperation between all professions if satisfactory conditions for the maintenance of health and the prevention of disease are to be realized. 3 s.h. PROFESSOR JACOBANSKY

NURSING AND ALLIED ARTS

N91-92-93. Includes 12-24 hours per week of correlated clinical experience.

N120, 130, 140, 170, 190.—Includes 20-40 hours a week of correlated clinical experience.

N1. ORIENTATION TO THE HEALTH FIELD.—An introduction to basic health needs of the community and the agencies and programs designed to meet them. 2 s.h. ASSISTANT PROFESSOR MASSEY

N61-62. NURSING ARTS.—A study of the fundamentals of healthful living and their adoption to basic nursing care in the home and in the hospital. Considers the nursing needs of individual patients and provides opportunity to plan and give the patient care. 6 s.h. ASSISTANT PROFESSOR RAPPAPORT, MISS KNOWLES AND STAFF

Nutr. 53. NORMAL NUTRITION AND DIETETICS.—This course considers the nutritive requirements for individuals in different stages of development, and in different occupations. The methods of supplying foods conforming to the individual nutritional needs are given for varying income levels. Actual foods are compared according to their contribution of specific nutrients, and in relation to their place in the daily diet. 3 s.h. MISS EVANS

N91-92-93. MEDICAL AND SURGICAL NURSING.—A study of basic principles underlying nursing care of patients with common medical and surgical conditions. Pharmacology and therapeutics, nutrition in disease, and community aspects are included. 9 s.h. ASSOCIATE PROFESSOR INGLES AND STAFF; ASSISTANT PROFESSOR MASSEY; DR. HART AND STAFF; DR. STEAD AND STAFF

N95. INTRODUCTION TO THE FIELD OF SOCIAL WORK.—An orientation to social work services and how they may be used to meet patients' needs in illness and in rehabilitation. 3 s.h. ASSISTANT PROFESSOR WIEN

N120. PEDIATRIC AND COMMUNICABLE DISEASE NURSING.—This course is designed to help the student understand children, their response to illness, and the therapy involved in their care, so that she can assume her role in child health promotion in the hospital, the home, and the community. A developmental approach is used throughout the course with emphasis on the child as a member of the family. The acute communicable diseases of childhood are included. ASSISTANT PROFESSOR MASSEY, MRS. CLARKE, MRS. PAINTER; DR. HARRIS AND STAFF

N130. OBSTETRIC NURSING.—Considers normal and abnormal phases of the reproductive cycle basic to nursing care of the mother and newborn child including the premature infant. The effect of reproduction upon individual and family; community aspects and opportunities for teaching in maternal health promotion. 6 s.h. ASSISTANT PROFESSOR MASSEY, MISS J. WILSON, MISS DAVIS, MISS KIERNAN; DR. CARTER AND STAFF

N140. MEDICAL AND SURGICAL NURSING.—A continuation of Nursing 93. A discussion of principles of surgical aseptic technique basic to nursing practice in the operating room and practice in nutrition in disease are included in this course. 6 s.h.

ASSOCIATE PROFESSOR INGLES AND STAFF; ASSISTANT

PROFESSOR MASSEY, MISS CAMPBELL, DR. HART
AND STAFF; DR. STEAD AND STAFF

N170. PSYCHIATRIC NURSING.—Discussion of the principles of psychiatric nursing and the functions and responsibilities of the nurse in the total care of the psychiatric patient with emphasis on mental hygiene and care and rehabilitation of the mentally ill. 6 s.h.

ASSISTANT PROFESSOR ZUKOWSKI;

PROFESSOR BUSSE AND STAFF

N180. PUBLIC HEALTH NURSING.—During the course, students will have experience in planning with patients in meeting health needs. 6 s.h.

ASSISTANT PROFESSOR MASSEY

N190. ADVANCED MEDICAL AND SURGICAL NURSING.—Designed to clarify and broaden understanding of basic principles requisite for nursing care. Emphasis is placed upon application of prior learning to health teaching and guidance of hospital patients. Conferences and seminars. 3 s.h.

ASSOCIATE PROFESSOR INGLES AND STAFF;

ASSISTANT PROFESSOR MASSEY

Division of Nursing Education



Advanced Professional Programs

A DIVISION of Nursing Education was established in December, 1944, as an integral part of the Department of Education of Duke University. At the present time, qualified graduate nurses may work toward the degree of Bachelor of Science in Nursing Education.

The primary objective of the degree program for graduate nurses is to prepare qualified individuals for teaching and supervisory positions in schools of nursing and in nursing service agencies. Facilities for instruction include the undergraduate colleges of Duke University, the School of Nursing, the Medical School and Duke Hospital.

I. Degree of Bachelor of Science in Nursing Education

ADMISSION

Students who wish to work toward the degree of Bachelor of Science in Nursing Education must apply for admission to the Woman's College of Duke University. To be accepted they must satisfy the following requirements with respect to their high school education:

1. Graduation from an approved secondary school with at least fifteen acceptable units of credit.
2. Twelve units must be in English, foreign language, history and social studies, mathematics and natural science.
3. Three units may be in subjects listed above or in such subjects as art, commercial subjects, household economics, or music.

Students who have satisfactorily completed one or more years of college work in an approved college or university must also fulfill the requirements listed above with respect to high school credit, must present official transcripts of all work done in other institutions, and must have honorable dismissal from each institution previously attended.

Other basic minimum requirements include:

4. Graduation from an approved school of nursing.
5. Satisfactory ratings from individuals, with whom the applicant has had fairly recent contact.

OUTLINE OF PROGRAM

Credit for 120 semester hours (exclusive of physical education) on which an average grade of at least "C" is made is required for the degree of Bachelor of Science in Nursing Education. The work of the final year must be taken in residence at Duke University. One year of experience as a graduate nurse is required before the degree is awarded. The program of studies leading to this degree must include:

1. Minimum general education requirements (may be satisfied at Duke University or at any accredited college or university).

	S.H.
English 1-2.....	6
Natural Science.....	8
History, Economics or Political Science.....	6
Sociology.....	3-6
Psychology.....	3-6
Electives.....	12-15
(Literature, art, music, religion, ethics, language)	

44

2. Basic Nursing Program 40 (maximum)

In evaluating credit the standing of the School of Nursing, the record of the individual student, and scores on basic nursing achievement tests administered by the Department of Measurement and Guidance of the National League for Nursing to all candidates as soon as they enroll in their first course are taken into consideration.

3. Courses in Education and Nursing Education.

	S.H.
88. Educational Psychology: Learning and Measurement.....	3
118. Educational Psychology: Psychological Development.....	3
84N. Social Foundations of Nursing Education.....	3
101N. The Curriculum of the School of Nursing.....	3
115N. } Nursing Education—Principles and Practice.....	8
116N. }	
117. Community Nursing—Seminar and Field Trips to Community Agencies.....	3
	23

4. Minimum of fifteen semester hours in one field, such as zoology, chemistry, physics, sociology, or psychology, or in a clinical area.

The following courses in clinical areas are offered at present:

	S.H.
120N. Problems in Nursing Care.....	3
130N. Psychosomatic Nursing.....	4
131N. } Psychiatric Nursing.....	8
132N. }	
133N. Seminar in Psychiatric Nursing.....	3
134N. } Medical and Surgical Nursing.....	8
135N. }	
136N. Seminar in Medical and Surgical Nursing.....	3

Other courses which are offered to graduate nurses are as follows:

192N. Principles and Methods of Teaching in School of Nursing.....	3
193N. Ward Administration and Teaching.....	3
194N. Team Nursing.....	2
195N. Personnel Work in Schools of Nursing.....	3
124N. Nursing Education: Teaching of the Nursing Arts.....	3

DESCRIPTION OF COURSES

84N. SOCIAL FOUNDATION OF NURSING EDUCATION.—A special section of Education 84, applied to Nursing Education. A survey of major historical, philosophical, and sociological factors which have affected developments in nursing and Nursing Education. The purpose of the course is to give the student a better understanding of the place of nursing in present day society and the responsibilities of the individual nurse toward that society. 3 s.h. ASSISTANT PROFESSOR RAPPAPORT

101N. THE CURRICULUM IN THE SCHOOL OF NURSING.—The general principles of curriculum making and the factors which determine the content and organization of the nursing school curriculum are considered in this course. 3 s.h. ASSOCIATE PROFESSOR INGLES

115N-116N. NURSING EDUCATION: PRINCIPLES AND PRACTICE.—A special section of Education 115-116. Principles of teaching applied to the nursing school situations and the planning and evaluation of instruction. Ninety hours of observation and of supervised teaching in the Duke University School of Nursing are required. Four hours of conference, observation, and practice teaching are required each week. Before beginning practice teaching, students must complete thirty hours of observation. (Not open to students who have had course 115-116.) 8 s.h.

ASSISTANT PROFESSOR RAPPAPORT

117N. COMMUNITY NURSING.—Designed for administrators, teachers, and supervisors in schools of nursing. Emphasis is on the integration of out-patient departments and community social and health agencies into the nursing school curriculum and on the preparation of nurses for community service. 3 s.h.

ASSISTANT PROFESSOR MASSEY

120N. NURSING EDUCATION: PROBLEMS IN NURSING CARE.—Each student works on an individual problem designed to improve the nursing care of patients. 3 s.h. ASSOCIATE PROFESSOR INGLES, ASSISTANT PROFESSOR ZUKOWSKI

124N. NURSING EDUCATION: TEACHING OF THE NURSING ARTS.—In this course an effort is made to help prospective teachers to integrate the facts and principles of the natural, social, and medical sciences into the teaching of nursing arts. Though major emphasis is placed upon problems which are involved in teaching the first course, the concept of the nursing arts as an integral part of each clinical area is stressed. 3 s.h.

ASSISTANT PROFESSOR RAPPAPORT

130N. PSYCHOSOMATIC NURSING.—A study of the close relationship between mind and body in all illness and of the techniques of observation and interview both experimental and therapeutic. Lectures, clinics, conferences, discussions, and experience with patients. 4 s.h.

ASSISTANT PROFESSOR ZUKOWSKI

131N-132N. PSYCHIATRY AND PSYCHIATRIC NURSING.—An advanced study with special emphasis on personality development and the preventive and therapeutic aspects of psychiatry and psychiatric nursing. In the second semester the management of practical situations of increasing complexity is stressed. Lectures, clinics, conferences, discussions, and experience with patients. 8 s.h.

ASSISTANT PROFESSOR ZUKOWSKI, AND MEDICAL STAFF IN PSYCHIATRY

133N. SEMINAR IN PSYCHIATRIC NURSING.—Special study of areas such as behavior problems of children, projective tests, group therapy, mental hygiene clinics, etc. 3 s.h. ASSISTANT PROFESSOR ZUKOWSKI, AND MEDICAL STAFF IN PSYCHIATRY

134N-135N. ADVANCED MEDICAL AND SURGICAL NURSING.—A study of the medical and surgical aspects of selected diseases aimed at giving the student a better comprehension of the total care necessary to bring about the best possible results for patients. Lectures, discussions, case histories, and planned observation and experience with patients. 8 s.h. ASSOCIATE PROFESSOR INGLES AND MEDICAL STAFF

136N. SEMINAR IN MEDICAL OR SURGICAL SPECIALTY.—Directed study in a selected medical or surgical specialty. Each student works on a problem of major interest to her. Individual research in the collection of original material. 3 s.h.

ASSOCIATE PROFESSOR INGLES

192N. PRINCIPLES AND METHODS OF TEACHING IN SCHOOLS OF NURSING.—The primary purpose of this course is to help teachers in schools of nursing to understand and to utilize generally accepted principles of learning and to carry out a more effective teaching program in a school of nursing. Instruction is given in the planning of courses, in methods of teaching in classrooms and in hospital divisions, in construction of examinations, and in the utilization of other methods of determining the effectiveness of a teaching program. 3 s.h.

ASSISTANT PROFESSOR RAPPAPORT

193N. WARD ADMINISTRATION AND TEACHING.—This course is designed to help head nurses better to understand their functions in planning and managing a program on a hospital division which will result in improved care of patients, greater satisfaction for professional and non-professional personnel, and a more adequate teaching program for students and others. 3 s.h.

ASSOCIATE PROFESSOR INGLES

194N. TEAM NURSING.—Discussion of principles of Team Nursing, and practice in a clinical area as a team member and a team leader. 7:00-12:20. Room 3032, Duke Hospital. Monday through Friday, July 25-August 5. Limited to 20 students. 2 s.h.

PROFESSOR CLARK AND STAFF

195N. PERSONNEL WORK IN SCHOOLS OF NURSING.—The primary purpose of this course is to help head nurses and supervisors to develop greater understanding of the principles of human behavior and greater ability to apply these principles in working with patients and others on hospital divisions, and in establishing cooperative relationships with other departments of the hospital. 3 s.h.

PROFESSOR JACOBANSKY

II. Degree of Master of Education with a Major in Nursing Education

(Not offered in 1955-1956)

ADMISSION

A student who wishes to work toward the degree of Master of Education with a major in Nursing Education must apply for admission to the Graduate School of Duke University. To be eligible for admission as a candidate for this degree she must meet the following requirements:

- (1) Graduation from an approved college or university with an average grade of not less than "B."
- (2) Satisfactory standing on the Graduate Record Examination.
- (3) Satisfactory standing on a test of mental ability.
- (4) Ability to write acceptable English as demonstrated on a test.
- (5) Graduation from an approved school of nursing.
- (6) Satisfactory ratings from three individuals, preferably former teachers and supervisors with whom the individual has had fairly recent contact.

OUTLINE OF PROGRAM

Basic Required Courses in Education:

	S.H.
300. Methods of Educational Research	3
304. The School as an Institution	3
305. The Nature, Function, and Reorganization of the Curriculum	3
317. The Psychological Principles of Education	3
	<hr/> 12

Courses in Nursing Education:

310. Organization and Administration of Schools of Nursing.....	4
311. Problems in Personnel Administration in Nursing.....	4
312. Research Problem.....	4
	<hr/>
	12
Minor, intra-departmental or extra-departmental.....	6
	<hr/>
	30

Candidates for the Master of Education degree must have had two years of experience including administration, supervision, or teaching in a school of nursing or nursing service organization when the degree is granted.

Tuition, Fees, and Other Expenses

FEES PER SEMESTER

A matriculation fee of \$20.00 is paid at the time of acceptance to Woman's College.

Tuition.....	\$225.00
General Fee (Undergraduate) including health, library and incidental fees.....	75.00
General Fee (Graduate School).....	60.00
Laboratory Fee (amount depends upon course which is taken)	

LIVING ARRANGEMENTS

Students may make their own arrangements to live in private homes or Woman's College dormitories. Applications for a room in the College dormitory should be made to Housing Bureau, Duke University.

EMPLOYMENT

A limited number of nurses may be employed at Duke Hospital during the time they are taking courses at Duke University. Nurses who are working full-time (44 hours per week) may take one course each semester. Nurses who wish to reduce hours of work per week to 36, with a corresponding reduction in salary, may take two courses each semester.

For information about employment write to the Director of Nursing Service, Duke Hospital.

Program in Psychiatric Nursing



A TWELVE-MONTH program in psychiatric nursing is offered to qualified graduate nurses. The primary objective of this program is to prepare individuals for head nurse position in psychiatric units of hospitals, child guidance clinics, and related fields. Students who wish to qualify for supervisory or teaching positions in the psychiatric field are advised to complete the program which leads to the degree of Bachelor of Science in Nursing Education.

Facilities for clinical teaching and experience include the psychiatric in-patient unit, the out-patient department, the psychosomatic service of Duke Hospital, child guidance clinics, the State Hospital in Raleigh, N. C., and Highland Hospital in Asheville, N. C.

Students have approximately 20 hours per week of carefully planned laboratory practice on clinical services, during which time they work closely with patients presenting a wide variety of emotional disturbances. They also have an opportunity to participate in staff conferences and clinics at Duke Hospital and at the State Hospital in Raleigh.

Approximately 30 semester hours of credit toward the Bachelor of Science in Nursing Education degree may be earned during the calendar year.

A limited number of training stipends are available through the U. S. Public Health Service for those nurses who have demonstrated particular interest and aptitude in this field.

Requirements for admission are the same as for all students admitted to the program which leads to the degree of Bachelor of Science in Nursing Education.

OUTLINE OF PROGRAM (ONE YEAR)

Fall Semester	<i>Credits</i>
Educ. 130N Psychosomatic Nursing.....	4
Educ. 131N Psychiatric Nursing.....	4
Electives Recommended by Instructor.....	8
	<hr/> 16
Winter Semester	
Educ. 132N Psychiatric Nursing.....	4
Educ. 133N Seminar in Psychiatric Nursing.....	3
Electives Recommended by Instructor.....	8
	<hr/> 15
Summer	
Educ. 120N Problem in Nursing Care.....	3

Program in Medical and Surgical Nursing



A TWELVE-MONTH program in medical and surgical nursing is offered to qualified graduate nurses. The primary objective of this program is to prepare individuals for head nurse positions in medical and surgical units of hospitals. Credit for the entire program applies toward the degree of Bachelor of Science in Nursing Education. Students who are interested in teaching and supervision in medical and surgical nursing are urged to complete all requirements for the degree.

OUTLINE OF THE PROGRAM

<i>Fall Semester</i>	<i>Credits</i>	<i>Spring Semester</i>	<i>Credits</i>
130N Psychosomatic Nursing.....	4	193N Ward Administration and Teaching.....	3
134N Medical and Surgical Nursing.....	4	135N Medical and Surgical Nursing.....	4
84N Social Foundations of Nursing Education.....	3	117N Community Nursing.....	3
Elective.....	3-6	Elective.....	3-6
	<u>14-17</u>		<u>13-16</u>

SUMMER SESSION

S136N Seminar in Medical and Surgical Nursing.....	3
S120N Problem in Nursing Care.....	3

The courses in medical and surgical nursing and in psychosomatic nursing will include from four to 16 hours per week of field work in medical and surgical divisions and medical and surgical out-patient clinics of Duke Hospital, and with various community health and social agencies. Students who are interested in a particular medical or surgical specialty (orthopaedic nursing, neurosurgical nursing, etc.) may have added experience in that area during the summer months. For some students experiences in other hospitals may be arranged.

Requirements for admission are the same as for all students admitted to the program which leads to the degree of Bachelor of Science in Nursing Education.

BULLETIN
OF
DUKE UNIVERSITY



The School of Law

ANNOUNCEMENTS FOR 1955-1956

VOLUME 27

April, 1955

NUMBER 6-A

Annual Bulletins

FOR GENERAL BULLETIN of Duke University, apply to *The Registrar*, Duke University, Durham, N. C.

FOR BULLETIN OF UNDERGRADUATE INSTRUCTION, apply to *The Registrar*, Duke University, Durham, N. C.

FOR BULLETIN OF THE COLLEGE OF ENGINEERING, apply to *The Registrar*, Duke University, Durham, N. C.

FOR BULLETIN OF THE GRADUATE SCHOOL OF ARTS AND SCIENCES, apply to *The Dean of the Graduate School*, Duke University, Durham, N. C.

FOR BULLETIN OF THE SCHOOL OF FORESTRY, apply to *The Dean of the School of Forestry*, Duke University, Durham, N. C.

FOR BULLETIN OF THE SCHOOL OF MEDICINE, apply to *The Dean of the School of Medicine*, Duke University, Durham, N. C.

FOR BULLETIN OF THE SCHOOL OF NURSING, apply to *The Dean of the School of Nursing*, Duke University, Durham, N. C.

FOR BULLETIN OF THE DIVINITY SCHOOL, apply to *The Dean of the Divinity School*, Duke University, Durham, N. C.

FOR BULLETIN OF THE SCHOOL OF LAW, apply to *The Dean of the School of Law*, Duke University, Durham, N. C.

FOR BULLETIN OF THE SUMMER SESSION, apply to *The Director of the Summer Session*, Duke University, Durham, N. C.

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BULLETIN
OF
DUKE UNIVERSITY

THE SCHOOL OF LAW



ANNOUNCEMENTS FOR 1955-1956

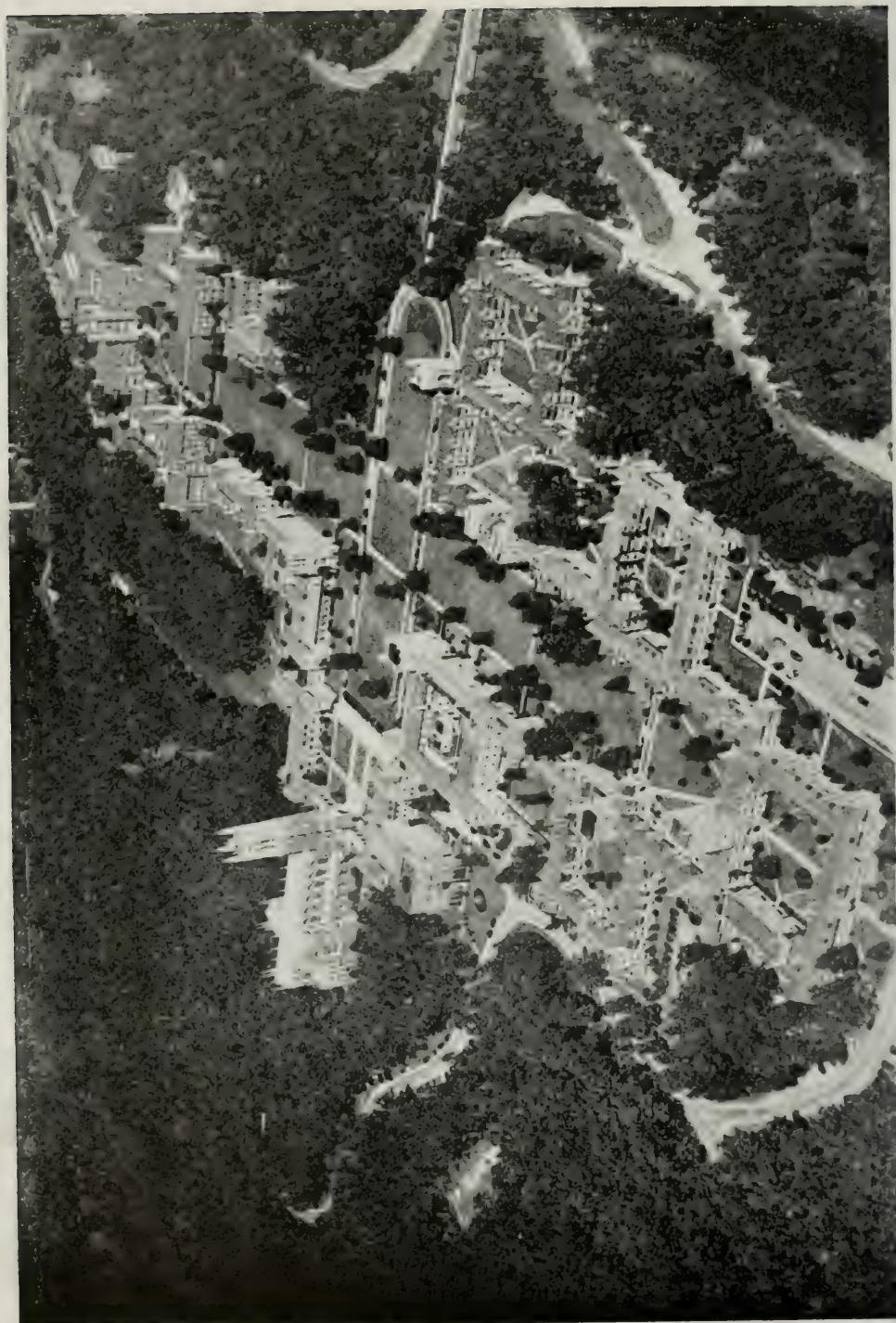
DURHAM, NORTH CAROLINA

1955

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UNIVERSITY OF WEST CAMPUS

Calendar 1955-1956



1955

- Sept. 21—Wednesday, Registration day.
Sept. 22—Thursday, Classes begin, 9 A.M.
Nov. 23—Wednesday, Thanksgiving holidays begin, 5 P.M.
Nov. 28—Monday, Classes resumed, 9 A.M.
Dec. 17—Saturday, Christmas recess begins, 1 P.M.

1956

- Jan. 2—Monday, Classes resumed, 9 A.M.
Jan. 17—Tuesday, Fall semester classes end, 5 P.M.
Jan. 19—Thursday, Mid-year examinations begin.
Jan. 28—Saturday, Mid-year examinations end.
Jan. 30—Monday, Spring semester classes begin, 9 A.M.
March 24—Saturday, Spring vacation begins, 1 P.M.
April 2—Monday, Classes resumed, 9 A.M.
May 19—Saturday, Spring semester classes end, 1 P.M.
May 21—Monday, Final examinations begin.
May 30—Wednesday, Final examinations end.
June 2—Saturday, Commencement begins.
June 4—Monday, Graduating exercises.

CHARLES H. LIVENGOOD, JR., A.B., LL.B., *Professor of Law.*

A.B. 1931, Duke University; LL.B. 1934, Harvard University; general practice, 1934-1940; Regional Attorney for the Seventh Region, Wage and Hour Division, U. S. Department of Labor, 1940-1941; Chief of the Wage-Hour Section, Office of the Solicitor of Labor, 1941-1942; Lieutenant (j.g.) and Lieutenant, U.S.N.R., 1942-1945; general practice, 1945-1948; Lecturer in Law, Duke University, 1946-1948; University of North Carolina, Summer 1948; George Washington University, Summer 1949; Associate Professor of Law, Duke University, 1948-1951; Associate Editor of the *Journal of Legal Education*, 1951-1952; University Marshal, since 1953; Professor of Law, Duke University, since 1951.

CHARLES L. B. LOWNDES, A.B., LL.B., S.J.D., *James B. Duke Professor of Law.*

A.B. 1923, Georgetown University; LL.B. 1926, S.J.D. 1931, Harvard University; general practice, 1926-1927; Assistant Professor of Law, Georgetown University, 1927-1928; Professor of Law, Georgetown University, 1928-1930; Research Fellow, Harvard Law School, 1930-1931; Professor of Law, Georgetown University, 1931-1934; Professor of Law, Duke University, since 1934.

MALCOLM McDERMOTT, A.B., LL.B., *Professor of Law Emeritus.*

A.B. 1910, Princeton University; LL.B. 1913, Harvard University; general practice, 1913-1930; Dean and Professor of Law, University of Tennessee, 1920-1930; University of Southern California, Summer 1929; Legal Consultant, Department of Defense, 1951; Professor of Law, Duke University, since 1930; Professor of Law Emeritus, since 1954.

DOUGLAS BLOUNT MAGGS, A.B., J.D., S.J.D., *Professor of Law.*

A.B. 1922, J.D. 1924, University of California; S.J.D. 1926, Harvard University; general practice, 1924-1925; Assistant Professor of Law; University of California, 1926-1927; Professor of Law, University of Southern California, 1927-1930; Visiting Professor of Law, Columbia University, 1928-1929; Yale University, second semester, 1935-1936; University of California, Summer 1927; Cornell University, Summer 1928; University of Chicago, Summer 1929; University of Southern California, Summer 1930; Stanford University, Summer 1935; University of North Carolina, Summer 1936, 1948; Special Assistant to the Attorney General of the United States, 1938-1939, 1942-1943; Chief of Wage-Hour Unit, Department of Justice, 1939; Chief Consultant to the General Counsel, Board of Economic Warfare, 1942; Chief Legal Consultant, Office for Emergency Management, 1942-1943; Solicitor, United States Department of Labor, 1943-1945; Professor of Law, Duke University, since 1930.

JOEL FRANCIS PASCHAL, A.B., LL.B., A.M., Ph.D., *Associate Professor of Law.*

A.B. 1935, LL.B. 1938, Wake Forest College; A.M. 1942, Ph.D. 1948, Princeton University; Instructor in Law, Wake Forest College, 1939-1940; U.S.N.R., 1942-1946; Instructor, Princeton University, 1946-1947; Research Director, North Carolina Commission for the Improvement of the Administration of Justice, 1947-1949; general practice, 1949-1954; Visiting Professor of Law, Duke University, 1952-1953; Associate Professor of Law, Duke University, since 1954.

MELVIN G. SHIMM, A.B., LL.B., *Assistant Professor of Law; Associate Editor, Law and Contemporary Problems; Associate Editor, Journal of Legal Education; and Faculty Advisor, Duke Bar Journal.*

A.B. 1947, Columbia University; LL.B. 1950, Yale University; 2nd Lt., FA (AUS), 1943-1946; general practice, 1950-1951; Counsel, Wage Stabilization Board, 1951-1952; Bigelow Fellow, University of Chicago Law School, 1952-1953; Assistant Professor of Law, Duke University, since 1953.

DALE F. STANSBURY, B.S., LL.B., J.S.D., *Professor of Law.*

B.S., 1914, Valparaiso University; LL.B. 1917, Indiana University; J.S.D. 1929, Yale University; Sterling Research Fellow, Yale University, 1928-1929; Deputy Attorney General of Indiana, 1918-1924, 1928; private practice, 1925-1927; Professor of Law, Mercer University, 1929-1935; Dean and Professor of Law, Wake Forest College, 1935-1944; Professor of Law, University of Tennessee, 1944-1946; Professor of Law, Duke University, since 1946.

ROBERT RENBERT WILSON, A. B., A.M., Ph.D., LL.D., *Professor of Political Science and Lecturer on International Law.*

A.B. 1918, Austin College; A.M. 1922, Princeton University; Ph.D. 1927, Harvard University; LL.D. 1940, Austin College; Carnegie Fellow in International Law, 1922-1923, 1924-1925; Member, Advisory Committee, Harvard Research in International Law, 1935—; Member, Board of Editors, *American Journal of International Law*, 1937—; United States Department of State: Assistant in Treaty Division, 1931-1932; Adviser on Commercial Treaties, 1944-1946; Consultant on Commercial Treaties, at various times, 1946-1953; Assistant Professor of Political Science, Duke University, 1925-1927; Associate Professor, 1927-1929; Professor 1929—; Chairman, Department of Political Science, Duke University, 1934-1948; Fulbright Professor, Law School of Istanbul University, 1951-1952; Lecturer on International Law (School of Law), since 1948.

ASSISTANTS IN LEGAL AID CLINIC

S. C. BRAWLEY, JR., LL.B.

SAMUEL F. GANTT, LL.B.

GEORGE L. HUDSPETH, B.S., LL.B.

S. PERRY KEZIAH, A.B., LL.B.

ALTON J. KNIGHT, A.B., LL.B.

JACK C. WOODALL, LL.B.

VISITING LECTURER IN LAW

E. C. BROOKS, JR., A.B.

LAW LIBRARY STAFF

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MARY LOUISE LEWIS, *Editorial and Research Assistant*MARGRID H. PERRY, *Administrative Assistant*

ADMINISTRATIVE STAFF

MYRTLE F. BURNS, *Registrar*LINA W. WILLIAMSON, *Secretary to the Dean*

FACULTY COMMITTEES

Committee on Alumni Relations: Mr. Bolich, Chairman; Messrs. Bryson and McClain.

Committee on Curriculum: Mr. Maggs, Chairman; Messrs. Kramer, Latty, Lowndes, McClain and Stansbury.

Committee on Graduate Study: Mr. Latty, Chairman; Messrs. Bolich and Stansbury.

Committee on Pre-Legal Affairs: Mr. Bradway, Chairman; Messrs. McClain and Shimm.

Committee on Relations with Bench and Bar: Mr. Bryson, Chairman; Messrs. McClain and Paschal.

Committee on Student Affairs: Mr. Bradway, Chairman; Messrs. Bryson and McClain.

Law and Contemporary Problems Editorial Advisory Board: Messrs. Bradway, Latty, McClain and Stansbury.

The School: Its Purposes and Methods



BUILT on the foundation of the School of Law of Trinity College, with its history of legal instruction running back to the middle of the past century, the Duke University School of Law was established in 1924. In 1930 the School was moved into its present building, the Faculty and library were greatly increased, and the activities of the School broadened. The School of Law is a member of the Association of American Law Schools and is on the "Approved List" of the American Bar Association. More than twenty-four states and fifty-one institutions of higher learning are represented in its student body.

The curriculum of the School of Law provides thorough preparation for the practice of law in any state; its graduates have been admitted to the bar in over forty states and the Territory of Hawaii. Opportunities for specialization in particular branches of the law are afforded.

In carrying out the trust imposed by the indenture establishing the Duke Endowment, the School of Law seeks to have the student acquire knowledge and comprehension not only of legal doctrine, but also of the judicial process and of the social, economic, and political problems with which law and lawyers must deal. The method of instruction employed compels analysis of judicial opinions and inquiry into the non-legal as well as the legal considerations which underlie them. In appropriate courses, special consideration is given to the work of the legislative and administrative agencies of government. In recognition of the increasing importance of the role of the lawyer in representing private interests before government agencies and in government service, an unusually broad program is offered in the public law field. Scope for creative student work is provided by seminar courses and supervised individual study and research.

Practical training is not left for the first years of practice. A carefully integrated series of courses is designed to give students actual experience in the work of lawyers. Legal research and writing courses and moot court work in the first and second years are followed in the third by seminar courses emphasizing legal planning and drafting and by practice courses and work in the Legal Air Clinic. A student bar association affords a means whereby the student may gain acquaintance with the professional organizations through which a lawyer may and should contribute to the well-being of his profession and of society.

For details of the program of study see Program of Instruction, page 28. The separate courses are described on pages 32 through 37.

Admission, Registration, and Fees



Admission

DIRECTIONS TO APPLICANTS FOR ADMISSION

APPPLICATION must be made on the prescribed Law School application blank which will be sent upon request. No application can be finally passed upon until all required documents are on file. These documents are: (1) the application itself, to which a recently made personal photograph should be attached; (2) a complete transcript of record and evidence of graduation or right to honorable withdrawal from the institution from which credit is offered; (3) letters from (a) a responsible official of the college attended, and (b) a responsible person in the applicant's home community; (4) a report of the applicant's score on the Law School Admission Test described below; (5) a medical certificate on a form supplied by the Law School.

The Law School seeks to select students who give promise of leadership in some of the various phases of professional activity. Applicants for admission and their sponsors are requested to keep this fact in mind.

The Law School Admission Test, referred to above, is administered by the Educational Testing Service and is participated in by a number of the leading law schools of the country. It is given four times a year at examination centers conveniently located throughout the United States. No special preparation for the test is necessary, since it is designed to measure aptitudes rather than knowledge of subject matter. The applicant's score on the test will be considered along with other data in passing upon his admission to the Law School. Application forms and information concerning the test should be procured by writing directly to the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey.

TIMES OF ADMISSION

Beginning students may enter only at the opening of the Fall semester in any year. Students who have completed the first year of law study at this or any other law school approved by the Association of American Law Schools may enter at the beginning of any semester.

REQUIREMENTS FOR ADMISSION

An application for admission as a candidate for the degree of Bachelor of Laws may be submitted by any person (1) who is a graduate of a college of approved standing, or (2) who has completed in a college of approved standing work equivalent in number of units to three-fourths of that required for graduation and whose college work in its entirety shows an average grade equal to that required for graduation, the requirement in each case being determined by the regulations of the college where the work was taken.

COMBINED COURSE

A number of colleges, upon application by their students, have permitted those who have completed three years of undergraduate work to enter the Law School of Duke University and upon the satisfactory completion of the first year of law school work to receive their Bachelor of Arts degree from such colleges. It is suggested that students desiring to enter Duke University School of Law make inquiry of their proper college authorities regarding this point.

A student from an undergraduate college of Duke University who has completed therein three years of study may apply to that college to enroll in a combined course wherein his first year of law study may be accepted toward the Bachelor of Arts degree, and, upon the completion of four additional semesters of law study, he will receive the Bachelor of Laws degree.

ADMISSION TO ADVANCED STANDING

Any person who has complied with the requirements for admission set forth in this announcement prior to the commencement of his law study, who presents evidence of the satisfactory completion of at least one year of study at any law school which is a member of the Association of American Law Schools, and who is eligible for readmission to the law school from which he proposes to transfer, may be admitted to advanced standing, subject to such rules as would be applicable to students in this School having a comparable scholastic record. Provisional credit for courses so completed will be given, final credit being conditioned on the completion of at least one full year of law study in this School with an average at least five points above the passing grade. Adjustment of credit for work done in such other law schools may be made by the Dean or by vote of the Faculty.

CANDIDATES FOR GRADUATE DEGREES

Applications for admission to graduate study should be addressed to the Dean of the Law School and should include transcripts of records of legal and pre-legal work. For the requirements for the graduate degrees, see pages 20 and 21.

Registration

Registration must be completed on the first day of each semester. Instruction will begin in all classes on the following day. Registration is conducted in the Law Building. All students, both old and new, are required to register at the beginning of each semester, at which time class schedules and course cards must be filled out and approved. Students who register in any semester at a date later than that prescribed are required to pay to the Treasurer of the University a penalty of \$5.00 for late registration unless excused therefrom. A student's registration for any semester is not complete until he has paid the tuition and fees for that semester. The \$5.00 penalty for late registration will be imposed, therefore, unless the student has paid his tuition and fees by registration day.

REGISTRATION FOR BAR EXAMINATION

Many states now require that a student, prior to or shortly after beginning the study of law, register with the board of bar examiners of the state if he intends to practice therein. Each student should write to the secretary of the board of bar examiners of the state in which he plans to practice and ascertain if that state makes this requirement.

CONDUCT OF STUDENTS

All students are admitted subject to the rules of the University and of the School of Law, and continuance in the School is conditioned upon the observance of such rules.

The University expects of its students loyal and hearty co-operation in developing and maintaining high standards of conduct as well as of scholarship. The University, therefore, reserves the right, and matriculation by the student is a concession of this right, to compel the withdrawal of any student whose conduct at any time is not satisfactory to the University.

Fees and Expenses

Tuition fees are due at the beginning of each semester. The tuition fee is \$225.00 a semester. In addition, a general fee of \$50.00 per semester is required in lieu of separate fees for matriculation, medical service, and the like.

The admission of an applicant is not final until he deposits the sum of \$25.00 with the Treasurer of the University. This deposit will not be returned. It will be credited to the account of the student or, if the student is entitled to the benefits of the Servicemen's Readjustment Act or the Vocational Rehabilitation Act, it will be refunded upon his matriculation.

Law students may secure admission to all regularly scheduled University athletic contests held on the University grounds during the entire academic year by payment of the athletic fee of \$10.00 per year plus any Federal taxes that may be imposed. This fee is payable in the fall semester.

The payment of the general fee entitles the student to full medical and surgical care, with the exceptions noted below. This service is under the direction of the University Physician with the co-operation of the staff of Duke Hospital. It includes hospitalization, medical and surgical care, drugs, dressings, X-ray studies, and ward nursing. A charge for board is made at the same rate as in the University dining halls. Refraction of eyes, treatment of teeth and of all chronic conditions, such as the removal of diseased tonsils, are not included in this service. The cost of any necessary braces and orthopedic appliances, as well as of special nursing, must be borne by the student.

Due to rising costs it may be necessary to consider some readjustment of charges. In the event of an adjustment applicants will be notified.

SCHOLARSHIPS AND LOAN FUNDS

Scholarships covering tuition (\$450) are available to a limited number of first-year students, graduates of approved American universities and colleges, who are in need of such assistance. Applicants must have made excellent records in their college work and must show unusual promise of success in the study of law. In cases of exceptional merit the annual value of a scholarship may amount to as much as \$850.

In addition to the general scholarship fund, five regional scholarships of \$1,000 each for applicants from North Carolina and South Carolina have been made available beginning with the fall of 1955. Such scholarships will be awarded annually on a competitive basis to the residents of the states of North Carolina and South Carolina who qualify as entering law students. Such scholarships are renewable for a maximum period of three years on the condition that the holder maintain a scholastic average of "B" or higher in the School of Law. The total value to the recipient who qualifies for the maximum period is \$3,000. Details concerning these scholarship awards will be furnished upon request.

Applications for scholarships should be presented to the Dean of the Law School, together with a transcript of college work and letters of recommendation from responsible persons, certifying to the character and fitness of the applicant.

Scholarship assistance will be continued as to second- and third-year students maintaining a high standard of work. The average cost of a year at Duke is approximately \$1350, which includes tuition, general fees, board, room and books. There are also a number of

positions as assistants in the Law Library and as research assistants which are open to students, particularly in their second or third year, who do not receive other aids from the University.

The University administers certain endowed loan funds for the benefit of students who are not able to meet their expenses, for the purpose of helping worthy students who have established a satisfactory record at the School to continue their education.

Two funds have been provided out of which small loans may be made to tide students over temporary financial emergencies arising during the course of the year. One of these was supplied by the Law School Guild and is limited as to amount and duration of loan. The other is due to the generosity of Mr. P. Frank Hanes of the Winston-Salem bar and is limited to the needs of selected students. These funds are administered by a committee of the Faculty.

GRADUATE LAW FELLOWSHIPS

Graduate fellowships in limited amounts are available. To be eligible for these grants, applicants must have completed with distinction the work required for the first degree in law at this Law School or some other school approved by the Association of American Law Schools, and must have been admitted to candidacy for the LL.M. or J.S.D. degree. Preference will be given to students who plan to make law teaching a career. All applications should be addressed to the Dean of the School of Law, Duke University. Fellowships will be awarded by the law Faculty on recommendation of the Committee on Graduate Study.

DINING SERVICE

Food service is cafeteria style. The cost of meals approximates \$1.75 to \$2.25 per day, depending on the need and taste of the individual. The dining facilities on the West Campus include three cafeterias with multiple-choice menus and the Oak Room where full meals and a la carte items are served.

In the Men's Graduate Center there is a cafeteria with multiple choice menus and a Coffee Lounge where sodas and sandwiches are served from 11:30 A.M. to 11:00 P.M. The prices in these dining rooms are the same as on the West Campus.

THE MEN'S GRADUATE CENTER

The Men's Graduate Center is available to men of the graduate and professional schools. It has facilities for four hundred men, complete with lounges, study rooms, recreational rooms, post office and dining hall. The rooms are equipped for two persons and the rental charge for a double room is \$350.00 for the academic year, or \$87.50 for each occupant each semester. Rooms are rented for a period of

not less than one semester. Unless special arrangements are made, the rate is \$1.00 per day with a minimum of \$25.00.

Room reservations are made through the Housing Bureau only after official acceptance for admission to the University. A \$25.00 room deposit is required of each applicant before a room reservation is made. The initial room deposit is effective during the student's residence in the University if attendance is continuous in regular academic years.

This deposit will be refunded under the following conditions:

- a. Within thirty days after the student has been graduated.
- b. Upon withdrawal from the University, provided written notice is received in the Housing Bureau by August 1, for cancellation of a reservation for the fall semester; and not later than January 15, for cancellation of a reservation for the spring semester.
- c. When the reasons requiring withdrawal are beyond the student's control.

No refund is made until the occupant has checked out of his room through the Housing Bureau and has settled all of his account with the Treasurer.

A resident student, in order to retain his room for the succeeding academic year, must make application at the office of the Housing Bureau for confirmation of the reservation in accordance with the plan that is published during the school year.

Any exchange of rooms must be arranged at the Housing Bureau. Persons exchanging rooms without the approval of the Housing Bureau will be subject to charges for both rooms.

The authorities of the University do not assume responsibility for the persons selected as roommates. Each student is urged to select his roommate when the room is reserved.

Beds and mattresses (39"x74"), tables, chairs, dressers, mirrors, and window shades are furnished by the University. The student supplies linens, blankets and pillows. Rugs, totaling not more than 54-square-feet, study lamps and curtains are permissible, and if desired, are furnished by the room occupants.

Regulations governing the occupancy of rooms will be supplied directly from the Housing Bureau when room reservations are made. Occupants are expected to abide by these regulations.

Law students are advised to make early application to the Housing Bureau, Duke Station, Durham, North Carolina, since assignment of rooms is made considerably in advance of the beginning of each semester. The applicant should state that he has been accepted for admission to the School of Law.

LAWS REGARDING PAYMENTS

The Executive Committee of Duke University has enacted the following regulations which govern the payment of all fees due the University:

1. The President and the Treasurer of the University have no authority to suspend or in any way alter these regulations.
2. Any student who has failed to pay his bills on the dates advertised in the catalogue is denied the right to attend classes until his account is settled in full; subsequent withdrawal does not entitle a student to a refund.
3. No student is considered by the Faculty as an applicant for graduation until he has settled with the Treasurer for all his indebtedness to the University.
4. No student who has not settled all his bills with the Treasurer of the University is allowed to stand the midyear or final examinations of the academic year.

When a student wishes his bills sent to his parents or guardian, the student or his parent or guardian must so notify the Treasurer of the University in writing in due time, but this in no way releases the student from liability to established penalties, if his bills are not paid on the dates advertised.

Further information will be sent upon request. Address

THE DEAN OF THE SCHOOL OF LAW

DUKE UNIVERSITY

Durham, North Carolina

Bachelor of Laws Degree



UPON favorable recommendation of the Faculty, the degree of Bachelor of Laws will be conferred on students who shall have successfully completed six semesters' study of law, the last two semesters of work immediately preceding the granting of such degree having been completed in this School.

A student shall be deemed to have completed successfully six semesters' study of law if during this period he has

(1) secured a passing grade in courses aggregating seventy-eight semester hours;

(2) secured in every required course a grade not requiring repetition thereof; and

(3) secured a weighted average at least five points above passing in all work taken other than first-year courses, or, if the grade in such work is lower than that above specified, an average grade of five points above passing in all work taken.

Students who have spent only their last two semesters of study in residence in this School must have received a weighted average at least five points above passing for that year.

MINIMUM AND MAXIMUM STUDENT LOADS

No regular student is permitted to take less than ten course hours per semester. No first-year student is permitted to take courses in excess of the first-year program.

Second- and third-year students are not permitted to take for credit more than fifteen course hours per semester; nor to audit and take for credit more than sixteen course hours per semester. In exceptional cases, students may petition the Faculty for permission to take more or less than the prescribed maximum or minimum loads.

ATTENDANCE

Regular class attendance is required. The right to take the examinations, as well as the privilege of continuing one's membership in the School at any time, is conditioned upon regular attendance at the exercises of the School.

STANDARDS OF SCHOLARSHIP

GRADES.—The final grades in each course are given in numerical terms which are equivalent to letter grades according to the following scale: 80 to 100, A; 70-79, B; 55-69, C; 50-54, D; 0-49, F.

A grade of 50 is necessary for passing a course. Where a grade below 50 is given a student in any required course, the course must be repeated if the instructor reports the grade with the notation "must repeat." When a student is required by the instructor to repeat a course which he has failed, the grade given after such repetition supersedes the previous grade in the course.

ELIGIBILITY TO CONTINUE LAW STUDY.—Any student who at the end of his first year or at the end of any subsequent semester, has an average grade lower than 50 on all the work then taken is ineligible to continue his work in the School. Any other student (1) whose average final grade at the end of his first semester is below 50, or (2) whose average grade at the end of any subsequent semester on all the work then taken is below 55, or (3) who in any single semester or in any single year receives failure grades in courses totaling eight or more semester hours, may at any time be declared by the Dean ineligible to continue.

NOTIFICATION OF UNSATISFACTORY SCHOLASTIC STANDING.—Every student subject to the provisions of the second sentence of the paragraph above, who has not been declared ineligible to continue his work in the School will be given a formal, written notice by the Dean's Office. This notice will set forth his average grade or grades and inform him (1) that he will be subject for the ensuing year to the special supervision of the Dean who may order his dismissal from the School in the event of his failure to maintain a satisfactory scholastic standard, and (2) that he will be ineligible to receive a degree unless his work meets the scholastic requirements for graduation which will be set forth in full in such notice.

Every other student whose average final grade at the end of any semester on the work of that semester, or on all work then taken, does not exceed the minimum average grade required for graduation by more than two points will be given a notice similar to that provided for above.

Graduate Work in Law



Objectives of the Graduate Study Program

THE graduate program of the School of Law is framed with a view to the encouragement and recognition of legal scholarship. It is addressed to the needs of those who have objectives consistent with the purposes of graduate legal education. It provides training for the qualified student who aspires to a teaching career, or who wishes to become proficient in a special field of the law, to do serious legal research, to prepare himself for a public law practice in or out of government, or to acquire a broader and deeper legal education than the undergraduate curriculum offers.

Master of Laws

ADMISSION TO CANDIDACY FOR THE DEGREE OF MASTER OF LAWS

Any person who has received the first degree in law from a law school qualified for membership in the Association of American Law Schools may be admitted as a candidate for the degree of Master of Laws, provided he satisfies the Committee on Graduate Study that his objective in desiring to do graduate work in law is consistent with the purposes for which the program is offered, and provided he demonstrates to the Committee, on the basis of his law school record, his capacity to take and profit by graduate work in law. In exceptional cases an applicant who does not meet the above requirements may, on vote of the Faculty, be admitted to candidacy for this degree if he is able to demonstrate that he is specially qualified, as by reason of practice or teaching. Normally the applicant will be required to show a level of scholarship appreciably higher than that required for the first degree in law at the institution from which he received that degree. An exceptionally high record in law school and in the graduate study program is expected of those who aspire to a teaching career. It should be emphasized that the graduate study program is designed for graduates with a definite objective, not for those who seek to pursue further law study simply from disorientation.

REQUIREMENTS FOR THE DEGREE OF MASTER OF LAWS

The degree of Master of Laws is reserved for students who, having demonstrated their capacity for graduate work in law, maintain a level of scholarship substantially higher than that required for the degree of Bachelor of Laws.

The candidate for this degree is required to complete a course of study comprising not less than twenty nor more than twenty-six semester hours, or approved research equivalent thereto. Two full semesters are required for the completion of this program. A candidate for this degree is required to include in his course of study at least two of the following courses: International Law, Jurisprudence, and Legal History. In addition to the minimum requirement of twenty semester-hours, the candidate is required to submit an essay representing substantial research on a legal subject. This essay is to be prepared under the supervision of the instructor in charge of the field in which the research is done. The candidate will find it helpful to have formulated a project of research, or alternative projects, before his admission to graduate study or, at any rate, before pursuing his graduate study in residence.

The candidate's course of study will be selected, ordinarily, from the following list of courses: Public Regulation of Business Seminar, Jurisprudence, Conflict of Laws, International Law, Legal History, Advanced Legal Accounting, Corporate Planning, Debtors' Estates, Insurance, Corporate Reorganization, Securities Regulation, Credit and Insolvency, Family Law, Family Law Seminar, Future Interests, Tax and Estate Planning, Labor Relations, Labor Standards, Labor Law Seminar, Federal Taxation I, Federal Taxation II, and State Taxation. This program of study is not inflexible. In appropriate cases the candidate will be encouraged to take related work in other departments of the University. Other courses of comparable content may be substituted for those listed. In special circumstances, credit not in excess of two hours per semester may be arranged for special, supervised research projects.

Doctor of Juridical Science

ADMISSION TO CANDIDACY FOR THE DEGREE OF DOCTOR OF JURIDICAL SCIENCE

Any person holding the degree of Master of Laws from this or any other law school which is qualified for membership in the Association of American Law Schools may, on vote of the Faculty, be admitted to candidacy for the degree of Doctor of Juridical Science, provided he completed the work for the Master's degree with distinction.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF JURIDICAL SCIENCE

Upon favorable recommendation of the Faculty, the degree of Doctor of Juridical Science will be conferred on students admitted to candidacy for that degree who complete and submit a monograph or series of essays suitable for publication and deemed by the Faculty to be of distinguished character and who pass an oral examination before a special committee appointed for that examination. At least one academic year, and, in the absence of an extension granted by the Faculty, not more than three years, must elapse between the award of the Master's degree and the award of the degree of Doctor of Juridical Science. Students who have received the degree of Master of Laws from another law school must spend at least two full semesters engaged in research at this School, and in addition may be required to complete a course of study prescribed by the Committee on Graduate Study. The monograph or series of essays required may be based upon, or be an extension of, the essay required for the Master's degree, provided substantial additional research is represented.

Post-Graduate and Refresher Courses

The School of Law provides instruction for students not meeting the requirements for admission to candidacy for graduate degrees who desire refresher courses or who desire simply to complete a fourth year of law school work. The successful completion of the courses taken by such students may be evidenced by certificate of the Dean.

Facilities and Activities



The Law School Building and Its Facilities

THE Law Building, like all other structures on the main campus of Duke University, is in Tudor Gothic style of colorful Cambrian stone from the Duke University quarries. It was occupied by the School of Law for the first time in September, 1930. In it are classrooms, seminar rooms, offices for Faculty and Staff, quarters for the Legal Aid Clinic and for the Duke Bar Association, a courtroom equipped for trial court and appellate court sessions, a student lounge, and the Law Library. For a description of dormitory accommodations, see page 15.

THE LAW LIBRARY

The Law Library, containing a collection of approximately one hundred thousand volumes, is one of the largest law school collections in the South. It consists of American and English statutory and case law; a collection of Continental law materials; treaties, digests, encyclopedias; the various selected case series; a comprehensive collection of legal periodicals; and publications in the fields of history, economics, government, and other social sciences, supplemental to the strictly legal materials. The Library receives every current legal periodical of general interest printed in the English language.

There are several thousand additional volumes of a legal nature in the main University library building, immediately adjoining the Law School, as well as the general collection of over a million volumes, to all of which the law students and Faculty have convenient access.

The Law Library is administered by a professionally trained staff and is open to the public daily throughout the year and in the evenings, as well, whenever the Law School is in session.

THE LEGAL AID CLINIC

A Legal Aid Clinic was organized at the School of Law in 1931 under the direction of Professor John S. Bradway. The purpose of the Clinic is to help the student acquire: professional self-confidence, a sense of professional responsibility, and professional self-control. To teach self-confidence, the student participates in a series of practical activities, such as searching a title, preparing a real case for trial. To provide a sense of professional responsibility, a student, under super-

vision, confers with real clients who have real problems. These matters are carried to the best available conclusion. To teach professional self-control, the student participates in a series of exercises designed to enable him to deal in an orderly fashion with innumerable details, which together, make up the sum total of law practice.

Specifically, the student learns such matters as how to gather and evaluate facts, how to plan a campaign at law, how to interview clients, how to run his own law office. In the field of legal writing, the student prepares memorandums of law, a trial brief in real cases for lawyers in active practice and many other documents and letters. Instruction is individualized. Many of the problems require cooperation by the student on the interprofessional level with persons in other departments of the University and in the Social Welfare Agencies in the city and the state.

Approximately four hundred persons a year apply for services of the Clinic. Only those applicants who are unable to pay counsel fees, and only those cases where there is no opportunity for a contingent fee are accepted.

The activities of the Clinic are centered in a suite of offices in the Law School building, and in an interviewing office in the business center of Durham. In addition to the Director, a staff of five members of the North Carolina State Bar assists in the educational and supervisory activities of the Clinic and representing its clients in court proceedings.

Publications

LAW AND CONTEMPORARY PROBLEMS

The School of Law publishes a quarterly, *Law and Contemporary Problems*, under the editorship of Professor Robert Kramer. This periodical, now in its twentieth volume, presents in each issue a symposium on a problem of current importance, in which the inter-related social and economic, as well as legal, factors are discussed by writers of competence in these respective fields. Where student research may contribute to the understanding of the legal aspects of such problems, student writings are accepted for publication.

The circulation of *Law and Contemporary Problems* extends not only to members of the legal profession and law libraries throughout the country, but also to industrial and financial concerns, governmental agencies, and public and general university libraries. Individual issues are not infrequently used as materials for study in university courses.

JOURNAL OF LEGAL EDUCATION

The *Journal of Legal Education*, a quarterly, is also edited at the

School of Law under the direction of Professor Robert Kramer. The publication serves as the organ for the Association of American Law Schools, providing a clearing house for ideas and professional studies in the constantly expanding field of legal education. The editorial policy of the *Journal of Legal Education* is determined by an editorial board named by the Association, assisted by an advisory committee consisting of prominent legal educators and practicing attorneys.

DUKE BAR JOURNAL

The School inaugurated in 1950-1951 the publication of the *Duke Bar Journal*, published semi-annually, the material of which is written entirely by law students under Faculty supervision. This *Journal* affords an unusually fine medium for student training in effective legal writing. Professor Shimm is Faculty advisor to the *Journal*.

Organizations and Activities

THE DUKE BAR ASSOCIATION

The Duke Bar Association was established in the spring of 1931. It is open to all the students of the Law School and is organized along the lines of the American Bar Association. Its purpose is to introduce the student to the problems considered by the bar in professional organizations and to develop professional consciousness and responsibility. A Faculty Committee on Student Affairs serves as general adviser to the student officers.

MOOT COURTS

A program of student Moot Court arguments is conducted under the supervision of the Faculty as a part of the courses in Research and Writing in which all students are required to participate.

AMERICAN TRUST COMPANY AWARDS

Since 1948-1949 the American Trust Company, Charlotte, North Carolina, has sponsored an annual will drafting contest in cooperation with the law schools of Duke University, University of North Carolina, and Wake Forest College. All students who are enrolled in these respective law schools, but who are not practicing or who have not actively practiced law, are eligible to participate. Two hundred dollars is awarded to the first-place winner and one hundred dollars to the second-place winner.

EDWIN P. FRIEDBERG AWARD

Edwin P. Friedberg, a member of the Raleigh bar, awards annually a copy of the Commerce Clearing House Standard Federal Tax Reports for the current year to the graduating student who has done the best work in federal taxation while he has been in the Law School.

JAMES F. BYRNES SENATE PRIZE

Delta Theta Phi Foundation, Inc., through the James F. Byrnes Senate, awards each year to that member of the first-year class who has completed the work of the first year with the highest average a small plaque bearing his name and denoting the honor which he has attained. The winner's name is also inscribed on a larger, permanent plaque which hangs in the Law Building.

LAWYERS TITLE AWARD

Established in 1954 by the Lawyers Title Insurance Cororation of Richmond, Virginia, this prize of one hundred dollars will be awarded annually to that student attaining the highest average grade in the real property courses: Estates in Land, Conveyancing, and Future Interests.

ORDER OF THE COIF

A chapter of the Order of the Coif, national legal scholarship society, has been established at Duke University School of Law. Its purpose is "to foster a spirit of careful study and to mark in a fitting manner those who have attained a high grade of scholarship." Election is restricted to the ten per cent of the graduating class who have attained the highest rank in their law school work.

WEST PUBLISHING COMPANY AWARDS

The West Publishing Company of St. Paul, Minnesota, offers the following awards:

To that member of the first-year class who makes the highest scholastic average for that year a copy of Black's *Law Dictionary* or some Hornbrook (Text) of the student's choice,

To that student in the course in Constitutional Law who makes the highest grade in that course a year's subscription to the advance sheets of the Supreme Court Reporter,

To that member of the third-year class who makes the highest scholastic average for that year a copy of McIntosh's *North Carolina Practice* or Lake's *North Carolina Practice Methods* or some Hornbook (Text) of the student's choice.

WILLIS SMITH PRIZE

The late Willis Smith, for many years a prominent member of the Raleigh bar and Chairman of the Board of Trustees of Duke University, who was serving in the United States Senate at the time of his death, June 26, 1953, provided for over twenty years an annual award to that member of the graduating class of the Law School who had maintained the highest scholastic average during the entire three years of law school work. The prize consisted of a set of valuable books

selected by the donor and the Dean. Mr. Smith's family has made arrangements to continue this prize in his memory.

LEGAL FRATERNITIES

Two of the largest national legal fraternities maintain active chapters at the School of Law. The Charles Evans Hughes Inn of Phi Delta Phi International Legal Fraternity was founded at the School of Law in 1931. In 1947 the James F. Byrnes Senate of Delta Theta Phi Law Fraternity was installed at the School. Both fraternities seek to further professional standards. Students may be elected to membership at any time following their first full semester of law study. During the school year the fraternities sponsor separate programs of luncheons featuring prominent local speakers from the profession, an annual address by an attorney of national prominence, and occasional social functions.

RECREATIONAL FACILITIES

The University is located about two miles from the business district of Durham on wooded hills constituting part of the five-thousand-acre Duke Forest, which is maintained by the School of Forestry. Within a short distance from the campus are facilities for golf, horseback riding, and woodland hiking. Students of the Law School are entitled to the use of the University gymnasium, tennis courts, swimming pool, and similar privileges without cost. Motion pictures are shown in Page Auditorium twice a week, and concert programs, recitals, lectures, and plays are presented frequently.

Program of Instruction



THE program of instruction of the School of Law has been thoroughly revised as a result of studies made by the Faculty. The curriculum had become overcrowded. For years new courses have been added at this and other schools as new fields of law have become important; old courses have been retained. Students who wished to specialize in particular fields often found it necessary to omit some of the older, more fundamental courses. Insufficient attention had been given to legal writing, the drafting of legal instruments, and legal planning.

The newly adopted curriculum is designed to insure that students may prepare to specialize in practice without foregoing any part of the basic legal education required for general practice and desirable for all specialists. Courses have been combined; duplications in courses have been eliminated. The larger part of students' third year has been opened for studies of specialties. New courses and seminars have been added, especially in the third year in which teaching methods will be different from those used in the older courses. In these courses and seminars legal writing and drafting and legal planning will be emphasized.

The courses offered are listed below. They are grouped under three headings: First-Year Program, Second-Year Program, and Third-Year Courses. At page 32 the individual courses are described: in that section of the Bulletin they are grouped under the following headings: Business Courses; Property Courses; Public Law Courses; General Courses; Procedure and Practice Courses.

THE FIRST-YEAR PROGRAM is prescribed. It includes basic courses in the fields of contracts, business associations, property (including sales and other chattel transactions), and torts. These courses serve also to acquaint the student with the nature of the judicial process (which is stressed in Chattel Transactions), the court system and court procedure (stressed in Torts), and legal history (stressed in the property course and in other courses). In the field of public law, legislation and the legislative process are studied in the first semester; criminal law and procedure is given throughout the year. A course in research and writing (which is continued through the first semester of the second year), after consideration of how the law is found in law books, trains students in writing memorandums of law and legal arguments and in drafting legal documents; the course emphasizes, for

each student, the law of the state in which he intends to practice, and introduces students to the art of legal planning. It includes the preparation of briefs and the arguing of moot court cases.

The **SECOND-YEAR PROGRAM** comprises nearly all the other basic courses which all students need regardless of what kind of law practice they plan to enter and the courses prerequisite to third-year work in special fields and in legal planning. Third-year courses may be substituted for non-required courses in this program upon approval of the instructor. The research and writing course continues through the fall semester. The basic work in property and business associations is completed. In the field of business transactions, the students study negotiable instruments and security. A course in federal income taxation, basic to advanced third-year work for specialists, adequately covers the subject for students not planning to specialize in it. Legal and equitable remedies, and court procedure in civil cases, are studied in the course in remedies. Students continue their study of public law in courses in constitutional and administrative law.

THE THIRD-YEAR COURSES (of which an aggregate of 10 to 15 hours each semester is to be selected by each student) are designed to emphasize legal planning and drafting and to enable students to equip themselves to specialize in particular fields. The Faculty recommends that all students complete their basic legal education by taking courses in evidence and legal ethics. There are also fundamental courses in legal history and jurisprudence and in conflict of laws and international law. The rest of the third-year courses are in specialties; they are grouped below under the headings (1) business (including advanced corporation law), (2) estates, family, and property, (3) procedure, practice, and local law, and (4) public law (including labor law and taxation). A number of these specialty courses (those preceded by asterisks in the list below) emphasize legal planning and drafting. Each student is required to include two of these courses in his third-year program; enrollment in each is limited.

The First-Year Program

	SEMESTER HOURS	
	Fall	Spring
Chattel Transactions	2	2
Contracts	4	2
Criminal Law and Procedure	2	2
Research and Writing I	1	1
Torts and Introduction to Procedure	3	3
Legislation	3	
Business Associations I		2
Estates in Land		3
	—	—
	15	15

The Recommended Second-Year Program

	SEMESTER HOURS	
	Fall	Spring
Civil Procedure [Required]	3	2
Constitutional Law and Federal Courts [Required]	3	2
Research and Writing II [Required]	1	
Administrative Law [Required]		3
Business Associations II	3	
Conveyancing	3	
Restitution and Equitable Remedies		2
Negotiable Instruments	2	
Security		3
Federal Taxation I		3
	15	15

Substitutions of third-year courses for non-required second-year courses may be made with permission of the instructors in the former. Third-year courses suitable for study in the second year are Family Law, Insurance, Labor Relations, Trusts, and Wills. A student omitting a second-year course from his second-year program may find himself unable to take that course in his third year because it and a third-year course he wishes to take may be scheduled at the same hour.

The Third-Year Courses

Students are to select courses aggregating 10 to 15 hours each semester. Every student must select two of the starred courses listed under "B. Specialties." These courses emphasize legal planning and drafting. Enrollment in each of them except Legal Aid Clinic is limited to 15. Legal Aid Clinic counts as a single starred course, though it is a year course. No student may take more than two starred courses in the same semester without the consent of the Dean and of the instructors in the starred courses involved.

A. ADVANCED COURSES

Conflict of Laws	3
International Law	3
Jurisprudence	3
Legal History	2

B. SPECIALTIES

I. Business (See also "IV. Public Law.")

*Corporate Planning and Drafting	2
Insurance	2
Debtors' Estates	3
*Advanced Legal Accounting (Not Offered 1955-1956)	2
*Securities Regulation	2

II. Estates, Family, Property

Family Law	2
Future Interests	3
Trusts	3
Family Law Seminar	2
*Tax and Estate Planning	2
Wills and Administration of Estates	2

III. Procedure, Practice and Local Law

Evidence	2	2
*Legal Aid Clinic	2	2
*Case Studies	1	
North Carolina Statutes and Decisions	2	
Legal Ethics		1
North Carolina Practice		2

IV. Public Law

Federal Taxation II	3	
Labor Relations	3	
Municipal Corporations	2	
*Constitutional Law and Federal Courts Seminar		2
*Labor Law Seminar		2
Labor Standards		2
*Public Regulation of Business Seminar		3
State Taxation		2
*Tax and Estate Planning		2

Description of Courses



Business Courses

ADVANCED LEGAL ACCOUNTING. The study and analysis, in more detail than in Business Associations II, of the balance sheet, the income statement, and the accountancy concepts and principles that serve as controls over corporate distributions; financial reporting and investor protection; trust and estate accounting; and some problems in accounting with respect to public utility regulations. Two hours a week first semester. (Not offered 1955-56). MR. LATTY

BUSINESS ASSOCIATIONS I. Legal principles concerning association in business by agency, partnership, other unincorporated forms and corporations. Creation, form and nature of agency, partnership and corporation, corporate existence (de factor corporations, corporate entity and its limitations), powers, duties, liabilities and compensation of agents, partners, officers and directors, risks in conduct of business by representatives (vicarious liability in tort, authority to contract), imputation of notice and knowledge, scope of enterprise (*ultra vires*), revocation and termination of authority, ratification, undisclosed business associates, stability of the associational relationship. The purpose of this course is to grasp basic principles of Agency and Partnership and related principles of corporation law. (The main basic study of corporation law, however, is in Business Associations II.) Two hours a week second semester. MR. LATTY

BUSINESS ASSOCIATIONS II. Promoters, subscription to and issue of shares, stock structure and corporate capital, dividends, preferred stock, bonds, capital increases and reduction, corporate re-acquisition of own stock, elementary principles of corporate accounting, public issue of securities, stock transfers, fundamental corporate changes (recapitalization, sale, merger and consolidation, dissolution), stockholders' suits, and certain principles concerning management and operation not studied in Business Associations I. Three hours a week first semester. MR. LATTY

CONTRACTS. The formation and legal operation of contracts in general, with attention to problems of drafting and counseling as well as of litigation and extrajudicial settlement. Legal and equitable remedies in contract cases, including damages, specific performance, and restitutionary remedies, and important procedural devices incident to such remedies. Four hours a week first semester, two hours a week second semester. MR. STANSBURY

CORPORATE PLANNING AND DRAFTING. The student is given hypothetical corporate problems (perhaps taken from the practicing lawyer's desk) on a client's proposed course of action; each problem is designed to require the student to grasp the business situation and goals involved, analyze for pertinent legal principles, plan the transaction to avoid legal and business (including taxation) pitfalls, plan the requisite steps to consummate the desired transaction, draft the appropriate papers and present his research. Two hours a week second semester. MR. LATTY

SECURITY. Mortgage and security interests in real property, and suretyship. Three hours a week second semester. MR. SHIMM

DEBTORS' ESTATES. Comparative study of methods used for the liquidation of debtors' estates. The non-bankruptcy materials cover individual creditors' rights by attachment, garnishment, execution, creditors' bills and the like; common law composition; and general assignments. The bankruptcy materials cover, in the main, the first seven chapters of the Bankruptcy Act. Three hours a week first semester. MR. SHIMM

INSURANCE. The nature of "insurance"; state supervision and control; types of insurance organization; the legal requirement of insurable interest; interest of others than the named insured; the measure of indemnity and subrogation; the beneficiary's interest in life insurance; the insured event, and excepted causes; warranties, representations and concealment; the making of insurance contracts; waiver, estoppel and election. Two hours a week second semester. **MR. PASCHAL**

NEGOTIABLE INSTRUMENTS. Comparative study of the different types of commercial instruments, their different functions and legal incidents. Two hours a week first semester. **MR. SHIMM**

PUBLIC REGULATION OF BUSINESS SEMINAR. See Public Law Courses, page 35 for description. Three hours a week second semester.

MR. LIVENGOOD AND MEMBERS OF THE ECONOMICS DEPARTMENT STAFF

SECURITIES REGULATION. Regulation of distribution and marketing of securities and protection of the investor under the Securities Act of 1933, the Securities and Exchange Act of 1934, the Public Utility Holding Company Act of 1935 and the Trust Indenture Act of 1939, with summary treatment of other related federal legislation; the role of the Securities and Exchange Commission; a brief survey of state regulation. Considerable emphasis is placed on civil liabilities under the federal legislation. Two hours a week second semester. **MR. LATTY**

Property Courses

CHATTEL TRANSACTIONS. The course covers most of the topics generally treated under the heading of Personal Property, Bailment and Sales; application of the concepts of possession and title in the law of personal property and sales, with special attention to the judicial techniques with these concepts; the bailment relationship; artisan's lien; transfer of chattels by gift, sale and miscellaneous inter vivos transactions. In Sales, the emphasis is on enforcement of buyers' and sellers' rights and on sales financing. Two hours a week throughout the year. **MR. LATTY**

CONVEYANCING. Form and execution of deeds, description in deeds; rents, licenses, easements and profits; covenants and agreements running with the land at law and in equity; estoppel by deed; recording and title registration; aspects of public control of land use. Three hours a week first semester. **MR. BOLICH**

ESTATES IN LAND. Historical introduction to real property with a detailed consideration of the modern law of possessory estates, including the fee simple, the fee tail and its statutory substitutes, the life estate, the estate for years and other non-freeholds; concurrent ownership; waste; aspects of possessory ownership relative to use, water, lateral and subjacent support and air. Three hours a week second semester. **MR. BOLICH**

FUTURE INTERESTS. Future interests in real and personal property; reversions; vested and contingent remainders; executory interests; rights of entry; possibilities of reverter; gifts to classes; powers; perpetuities; construction of wills and deeds as affecting the validity and characteristics of the interests created thereby. Three hours a week first semester. **MR. BOLICH**

TAX AND ESTATE PLANNING. Seminar devoted to problems and techniques of tax and estate planning. Federal Taxation I and Federal Taxation II and Future Interests are prerequisite to enrollment in the seminar. Two hours a week second semester. **MR. BOLICH AND MR. LOWNDES**

TRUSTS. The nature, creation and elements of a trust; transfer of the beneficiary's interest; administration of trusts; termination and modification of trusts; charitable trusts; liabilities to third persons; and liabilities of third persons. Three hours a week first semester. **MR. LOWNDES**

WILLS AND ADMINISTRATION OF ESTATES. Descent and distribution; property rights of surviving spouse; children and descendants; ancestors and collaterals; effect of claimant's misconduct. Making and revoking wills; testamentary capacity; execution of wills; holographic and special types; integration; testamentary character and intent; revocation; operation of legacies and devices. Probate and administration: grant of administration; probate and contest of wills; assets; contracts, sales and investments by personal representative; claims; settlement of the estate. Two hours a week second semester. MR. McCLAIN

Public Law Courses

ADMINISTRATIVE LAW. The formulation of statutory schemes of administrative regulation: the organization of administrative agencies; the determination, promulgation and enforcement of administrative programs; the respective spheres of administrative and judicial responsibility; judicial control over administrative action. Practice and procedure before administrative agencies: informal conferences and negotiations; formal hearings; constitutional limitations. Three hours a week second semester. MR. KRAMER

CONSTITUTIONAL LAW AND FEDERAL COURTS. Judicial protection against arbitrary governmental action; the history of the concept of a "higher law"; the constitutional clauses relied upon. The organization and jurisdiction of the federal courts; when and how judicial review can be invoked; limitations on governmental power with respect of economic matters, civil liberties and criminal and civil procedure. The powers of Congress, express and implied; limitations on State governmental powers resulting from the existence and from the exercise of Congressional powers. The constitutional questions involved in administrative law, conflict of laws, intergovernmental tax immunities, jurisdiction to tax, and state taxation of interstate commerce are covered more fully in other courses. Three hours a week first semester, two hours a week second semester. MR. MAGGS

CONSTITUTIONAL LAW AND FEDERAL COURTS SEMINAR. Advanced study of current Supreme Court cases and of particular fields in constitutional law and history and in federal court organization. Two hours a week second semester. MR. MAGGS

CRIMINAL LAW AND PROCEDURE. An introductory study of the law of crimes and the administration of criminal justice; analysis of the criminal act and the mental element in crime; consideration of specific offenses as defined by statute and the common law; discussion of typical defenses in relation to specific crimes; elementary criminal procedure; study of the Anglo-American penal system. Two hours a week throughout the year. MR. McCLAIN

FEDERAL TAXATION I. An introduction to the federal taxation with particular emphasis on the federal income tax. The course is designed as a final course for students who do not intend to specialize in tax practice and as an introductory course for those who do. Three hours a week second semester. MR. LOWNDES

FEDERAL TAXATION II. A more advanced course in federal taxation. The principal emphasis of the course is on the federal estate and gift taxes, and the relation of those taxes to the federal income tax. Three hours a week first semester. MR. LOWNDES

INTERNATIONAL LAW. A survey of public international law of peace, as evidenced especially in decisions of national and of international courts; the drafting and interpretation of treaties; the nature and handling of international claims; the organization and jurisdiction of international tribunals, with special reference to the International Court of Justice; developments with respect to the codification of the law. Three hours a week second semester. MR. WILSON

LABOR LAW SEMINAR. An intensive examination of significant problems in collective bargaining, union-management relations and labor dispute settlement, with emphasis upon the drafting and interpretation of contract clauses, theories and techniques in contract negotiation and grievance handling, voluntary arbitra-

tion and other procedures for the adjustment of disputes, and the interrelation of the legal and economic aspects of labor problems. Prerequisite: Labor Relations. Two hours a week second semester. **MR. LIVENGOD**

LABOR RELATIONS. A study of the law relating to collective bargaining and concerted labor activities, including the National Labor Relations Act and related legislation, the legal aspects of strikes, boycotts and picketing, the negotiation and administration of collective bargaining agreements, procedures for the settlement of labor disputes, and relations between the union and individual employees. Three hours a week first semester. **MR. LIVENGOD**

LABOR STANDARDS. Government regulation of conditions of employment, including the Fair Labor Standards Act and other wage-hour and child-labor statutes, unemployment insurance and other social security legislation, employers' liability and workmen's compensation acts, and related laws establishing minimum standards for the creation, continuance and termination of the employment relationship. Two hours a week second semester. **MR. LIVENGOD**

LEGISLATION. A general introduction to the field of Public Law, including, among others, the following topics: organization, techniques, procedures, and problems of legislative bodies; formulation of legislative policies; and drafting and interpretation of statutes. Three hours a week first semester. **MR. LIVENGOD**

MUNICIPAL CORPORATIONS. The nature of municipal corporations; their external constitution; their internal constitution; their powers; their liabilities; remedies for and against municipal corporations. Two hours a week first semester. **TO BE ANNOUNCED**

PUBLIC REGULATION OF BUSINESS SEMINAR. Intensive study of the federal antitrust laws and their common-law background, with emphasis on the economic policies involved. As a corollary of critical examination of the Sherman Act, Clayton Act, Federal Trade Commission Act and related legislation designed to enforce competition as the primary control of the economic system, some consideration is given to legal measures which supplement or replace competition, such as direct regulation of business and government intervention by public loans, guaranties and ownership. Three hours a week second semester. **MR. LIVENGOD AND MEMBERS OF THE ECONOMICS DEPARTMENT STAFF**

STATE TAXATION. Constitutional limitations on the taxing power; jurisdiction to tax; state excise taxes; and the general property tax. Two hours a week second semester. **MR. LOWNDES**

TAX AND ESTATE PLANNING. See Property Courses, page 33, for description. Two hours a week second semester. **MR. BOLICH AND MR. LOWNDES**

General Courses

CONFLICT OF LAWS. A study of the special problems which arise when the significant facts of a case are connected with more than one jurisdiction. Recognition and effect of foreign judgments; choice of law; federal courts and conflict of laws; the United States Constitution and conflict of laws. Three hours a week second semester. **MR. KRAMER**

FAMILY LAW. A seminar approach to the cases, statutes, and sociological theories covering the contract to marry, its formation and breach; marriage; annulment; divorce; separation; property rights; and international jurisdiction. Selected materials. Two hours a week first semester. **MR. BRADWAY**

SEMINAR IN FAMILY LAW. A seminar approach to the efforts of the social sciences, including the law, to deal with the intricate and perplexing problems of the modern family. Readings are assigned in legal and sociological material. Class discussions are based upon some central topic, such as divorce, domestic relations courts, etc. Written reports required in lieu of an examination. Family Law is prerequisite. Two hours a week second semester. **MR. BRADWAY**

JURISPRUDENCE. Discussion of some of the basic problems of classical and contemporary juristic theory, with applications to cases and statutes. Open to all graduate students, and, with the consent of the instructor, to qualified second and third year students. Three hours a week first semester. MR. KRAMER

LEGAL HISTORY. A study of the development of fundamental English and American legal institutions, with primary emphasis upon the establishment and growth of American law from the colonial period to the present. Two hours a week second semester. MR. BOLICH

NORTH CAROLINA STATUTES AND DECISIONS. A study of selected statutes of North Carolina with discussion of their application, and an analysis of the decisions of the Supreme Court of North Carolina construing them. Two hours a week first semester. MR. BRYSON

RESTITUTION AND EQUITABLE REMEDIES. A survey of equitable remedies in general (including enforcement of equity decrees) and of important parts of the fields of equity and restitution that are not covered in other courses. Two hours a week second semester. MR. PASCHAL

TORTS AND INTRODUCTION TO PROCEDURE. The bases of liability in damages for personal injuries and injuries to property; bases other than fault; negligence; intentional infliction of harm. Procedure in jury trials; proof of negligence; causation and "proximate cause"; defenses; the damages recoverable and equitable relief obtainable. Special rules applicable to occupiers and owners of land, motor vehicle accidents, suppliers of goods and remote contractors. Misrepresentation and fraud; defamation; assault and battery; false imprisonment. Three hours a week throughout the year. MR. MAGGS

Procedure and Practice Courses

CASE STUDIES. Detailed analysis of an important civil suit, under supervision of a visiting instructor who was counsel therein. The instructor's files and the record and briefs will be studied. Consideration will be given to how the matter first arose and what business or other problems of the client were involved; how counsel first analyzed the matter and how he ascertained relevant facts; how counsel prepared for and conducted the trial and appellate proceedings. One hour a week first semester. INSTRUCTOR TO BE ANNOUNCED

CIVIL PROCEDURE. A study of modern methods of pleading (including Federal Rules of Civil Procedure) and their relationship to the historical developments insofar as such developments affect or explain present-day rules; also a treatment of real party in interest, joinder of parties, joinder of causes of action, counterclaims, objections to pleadings, amendment to pleadings, and summary disposition of cases. Special emphasis is placed on trial and appellate practice. Three hours a week first semester, two hours a week second semester. MR. PASCHAL

EVIDENCE. A study of the common-law rules of evidence, including the requirements of relevancy and materiality; competency and privilege of witnesses, examination and cross-examination, burden of proof and presumptions, judicial notice, and functions of judge and jury. Two hours a week throughout the year. MR. STANSBURY

LEGAL AID CLINIC. This course is designed to develop in the student professional self confidence, responsibility to the program of the organized bar, professional self control. During the first semester the student learns to: interview a client in an orderly manner, determine the gaps in the client's story and fill in these gaps with information from other proper sources; evaluate facts; make a record of facts including the documents used for the purpose; diagnose a case for legal "symptoms" and develop legal theories; organize research; plan a campaign at law. The class becomes familiar with the courthouse as a source of facts; and with a law office as a place in which a lawyer functions. Special exercises like searching a title to real estate, preparing a criminal case for trial, are assigned.

During the second semester the student learns to conclude a case in an orderly professional manner by education; by conciliation; by litigation. The climax is a jury trial with expert witnesses. The students operate under the supervision of a staff member throughout the year. Students are assigned to duty in rotation in the Legal Aid Clinic office and in the downtown office. This gives them a chance to interview flesh and blood clients and to see the progress of real cases. By preparing trial briefs in court and criminal cases the student learns how to get ready for his appearance in the court room. Two hours a week throughout the year. MR. BRADWAY

LEGAL ETHICS. A seminar approach to the ethical problems of the lawyer and the profession. Readings are assigned in legal biography, law reform, the history of the profession, legal aid work. Class discussions cover canons of ethics, statutes, cases, and opinions of grievance committees dealing with the daily problems of the practicing lawyer. A written report is required on some phase of the reform of the administration of justice. One hour a week second semester

MR. BRADWAY

NORTH CAROLINA PRACTICE. A study of the steps in a civil action at law from the issuance of process to the entry of final judgment including service of process; appearance and waiver of process; selecting the jury; various motions made during the trial; submission of case to jury; verdict; judgment; noting and perfecting appeal. Also included are such topics as jurisdiction of various courts in North Carolina; venue; trials without a jury; provisional remedies and special proceedings. Two hours a week second semester.

MR. BRYSON

Legal Research and Writing

RESEARCH AND WRITING I. Classroom instruction and individual problems in the use of law books, the preparation of memorandums of law, and moot court briefing and argument. The first year of a two-year program designed to familiarize the student with the materials and methods of legal research and legal writing. Two semester-hours credit. MESSRS. STANSBURY, BRYSON, AND BRADWAY

RESEARCH AND WRITING II. The second year of the two-year program of research and writing. In addition to more advanced work of the kind involved in the first-year program, the student will assist in evaluating the work of first-year students and in judging first-year moot court arguments. Required of all second-year students. One semester-hour credit. MESSRS. STANSBURY, BRYSON, AND BRADWAY

Upon recommendation of the Committee on Graduate Study, seminars not listed in the Bulletin may be created or arrangements made for supervision of special research by individual graduate students in any subject.

All matters presented in this Bulletin are subject to change as the University or the School of Law may deem expedient.

Enrollment 1954-1955



First Year

Anderson, Angela Morra (University of Miami), Durham, North Carolina
Ayres, John D., Jr. (Florida State University), Dothan, Alabama
Barkley, David Sanford (Duke University), Durham, North Carolina
Beber, Robert H. (Duke University), Bronx, New York
Boshamer, Henry Carlisle (Duke University), Gastonia, North Carolina
Bradshaw, Robert Wallace, Jr. (Duke University), Wilson, North Carolina
Brooks, Eugene Clyde, III (Duke University), Durham, North Carolina
Chandler, Robert Moye, Jr. (Duke University), Rocky Mount, North Carolina
Chipman, David Ross (Carleton College), Chapel Hill, North Carolina
Collins, Harley Greenwood, Jr. (Duke University), Miami, Florida
Curtiss, Franklin (Brown University), Sheffield, Massachusetts
Dickman, Irwin Lawrence (Clark University), Brooklyn, New York
Drummond, Winslow (College of Wooster), Clarksville, Arkansas
Duke, Davis Welby, Jr. (Duke University), Alexandria, Virginia
Dukes, Charles Aubrey, Jr. (Duke University), Durham, North Carolina
Dyer, Ernest Wilson (University of Michigan), St. Clair Shores, Michigan
Evans, Merle DeVere, Jr. (Duke University), Massillon, Ohio
Flynn, John Crouse (University of Mississippi), Syracuse, New York
Friedman, David Aaron (Duke University), Trenton, New Jersey
Gallo, Louis Thomas (Rutgers University), East Paterson, New Jersey
Glaze, Richard Thomas (Duke University), Orlando, Florida
Hackett, George William (Alfred University), Friendship, New York
Halio, Elliott T. (Syracuse University), Beverly Hills, California
Hayward, Richard Carlton (University of Maryland), Chevy Chase, Maryland
Hooper, William Lyne, III (Franklin & Marshall College), Atlantic City, New Jersey
Huggins, Theodore Pollard (Duke University), Danville, Virginia
Hulsart, Robert McConomy (Lafayette College), Shelby, North Carolina
Hunting, James Frederick, Jr. (University of Miami), St. Petersburg, Florida
Janello, Kenneth Andrew (Tufts College), Bridgeport, Connecticut
Key, Thomas Charles (High Point College), Pinnacle, North Carolina
Knickerbocker, Donald Cushing (Duke University), Cincinnati, New York
Kostelnik, Bernard Michael (Lehigh University), Bethlehem, Pennsylvania
Leggio, Anthony Joseph (Duke University), Woodhaven, New York
Loomis, Horace Buel, III (Western Michigan College), Charlotte, Michigan
Louis-Dreyfus, William Gerard (Duke University), New York, New York
Maunde, James Beacham Girty (Earlham College), Richmond, Indiana
Moore, Milburn Marvin (Wayne University), Detroit, Michigan
Parke, Paul Corwin (Duke University), Rockville Centre, New York
Petree, Robert Graham (American University), Silver Spring, Maryland
Pizer, Edward Paul (Duke University), Raleigh, North Carolina
Pollock, Arnold Harris (Duke University), Miami Beach, Florida
Robinson, Harvey Ruddy (Geneva College), Freedom, Pennsylvania
Schaffer, Donald Duane (Lafayette College), Allentown, Pennsylvania
Schwartz, Richard Tobias (Duke University), Jersey City, New Jersey
St. Amant, George William (Williams College), Waban, Massachusetts
Stevens, David Hurst (Duke University), Conneaut, Ohio
Swiggett, Robert Horace, Jr. (Guilford College), Greensboro, North Carolina
Taylor, Robert Worth (Duke University), Jenkintown, Pennsylvania
Wagner, Robert Charles (Duke University), Irvington, New Jersey
Walsh, Stephen Drake (Lafayette College), North Plainfield, New Jersey
Wilke, Wayne Francis (Denison University), Cincinnati, Ohio

Second Year

Allard, David Henry (Whitman College), Yakima, Washington
Atkins, James Harrison (Duke University), Gastonia, North Carolina
Bernard, Harold, Jr. (Duke University), Johnstown, Pennsylvania
Brennan, David Richard (Duke University), Arlington, Virginia
Bundschu, William Blanton (Duke University), Independence, Missouri
Burdman, Bertram Richard (Youngstown College), Youngstown, Ohio
Cassedy, Marshall Royal (Hobart College), Short Hills, New Jersey
Caudle, Lloyd Cameron (Duke University), Clemmons, North Carolina
Cheney, Paul Northcott (University of North Carolina), Salisbury, North Carolina
Dillard, John Marshall (Furman University), Greenville, South Carolina

Dorkin, Frederick Eugene (Dartmouth College), Bridgeport, Connecticut
 Eldridge, William Butler (Duke University), Durham, North Carolina
 Evans, Paul Vernon (Colorado College), Colorado Springs, Colorado
 Felts, Robert Lee (Sacramento State College), Durham, North Carolina
 Fisher, Kenneth Howard (Marshall College), Kenova, West Virginia
 Fletcher, Francis Marion, Jr. (Cornell Law School), Charlotte, North Carolina
 Gaston, Harley Black, Jr. (Duke University), Belmont, North Carolina
 Gibbons, Gerald Robert (Duke University), Utica, New York
 Greenglass, Herman Alfred (Duke University), Miami Beach, Florida
 Hamilton, Ernest Edward, Jr. (Duke University), Buffalo, New York
 Hamilton, John Dickson, Jr. (Miami University), Dayton, Ohio
 Harris, Elisha Carter (Duke University), Durham, North Carolina
 Johnston, John Devereaux, Jr. (Duke University), Asheville, North Carolina
 Josey, Claude Kitchin (U. S. Military Academy), Scotland Neck, North Carolina
 Kortepeter, Paul Frederick (Harvard University), Southport, Indiana
 McKee, Duncan Oliphant (College of Wooster), Lawrenceville, New Jersey
 Mays, Alfred Raymond (Kent State University), Cleveland, Ohio
 Neely, John Starr, Jr. (Duke University), Rutherfordton, North Carolina
 Reed, John Alton (Duke University), Washington, D. C.
 Reeves, Ernest Gene (Duke University), Chattanooga, Tennessee
 Ring, Carlyle Conwell, Jr. (Columbia Law School), Jamestown, New York
 Robinson, Russell Marable II (Duke University), Charlotte, North Carolina
 Rose, Carl Preston (Duke University), Rocky Mount, North Carolina
 Schwartz, Ronald Muni (Duke University), Stamford, Connecticut
 Semon, William Peter (Duke University), Manhasset, New York
 Shankweiler, Richard Thomas (University of Miami), Wilmington, Delaware
 Stein, Gary Saul (Duke University), Irvington, New Jersey
 Strickland, Donald Bennett (Duke University), Rich Square, North Carolina
 Tallant, David, Jr. (Claremont Men's College), River Forest, Illinois

Third Year

Bell, William Goebel (Duke University), Carrollton, Kentucky
 Bowen, Trent Calvin (Wake Forest College), Durham, North Carolina
 Boyd, Melvin Thomas (Duke University), Henderson, North Carolina
 Branham, William Dennis (Duke University), Rocky Mount, North Carolina
 Campbell, Forrest Edwin (University of Portland), Dunn, North Carolina
 Carnahan, John Andrew (Duke University), Cleveland Heights, Ohio
 Coleman, John William (Duke University), Arlington, Virginia
 Cummings, Alton Tunnell (Duke University), Asheboro, North Carolina
 Franzblau, Sidney Myron (Muhlenberg College), Newark, New Jersey
 Friedrich, John Peter (Colgate University), Fayetteville, New York
 Frisch, Robert Myron (Rutgers University), New Brunswick, New Jersey
 Goodwin, David Coburn (Harvard University), Miami Beach, Florida
 Hahn, Raymon Jenkin (Duke University), Pensacola, Florida
 Halberstadter, Sanford Ira (Rutgers University), Elizabeth, New Jersey
 Kuffner, John Frederick (Ohio University), St. Marys, Ohio
 Mitchell, Donald Walcutt (Duke University), Summit, New Jersey
 Reynolds, Joseph Charles (Duke University), Asheville, North Carolina
 Sellars, Bayard Bellamy (University of California at L. A.), Durham, North Carolina
 Shapiro, David (Tufts College), Passaic, New Jersey
 Snyder, Theodore Allen, Jr. (University of Chicago), Walhalla, South Carolina
 Steffey, Fred Henry (Duke University), Durham, North Carolina
 Swanson, Edward Nathaniel (Duke University), Pilot Mountain, North Carolina
 True, Joel Brundage, Jr. (Duke University), Springfield, Tennessee
 Vickers, Claude Wallace (University of North Carolina), Durham, North Carolina
 Walker, Clarence Wesley (Duke University), Durham, North Carolina
 Wilkins, Roland Robert (Albion College), Decatur, Georgia
 Woolard, William Leon (Duke University), Pinetown, North Carolina

Graduate Students

Baade, Hans W. (Syracuse University, University of Kiel), Forest Hills, New York
 Culver, Charles McAlister (Mercer University, Mercer University Law School), Macon,
 Georgia
 Hudspeth, George Lee (Texas Christian University, Duke University Law School), Yadkin-
 ville, North Carolina
 Keziah, Sanford Perry (Duke University, Duke University Law School), High Point, North
 Carolina
 McCain, John Walker (Newberry College, University of North Carolina, Emory University
 Law School), Morganton, North Carolina
 Stevens, David Boyette (University of North Carolina, University of North Carolina Law
 School), Durham, North Carolina

Duke University School of Law

Publishes

Law and Contemporary Problems

Each issue of this publication is devoted to a symposium exploring not only the legal but also the economic and other social-science aspects of current problems that cross the lawyer's desk.

Symposiums published or to be published in 1955 include

School Pupils and the Law
Land Planning in a Democracy
Urban Housing and Planning
Obscenity and the Law



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Law and Contemporary Problems

DUKE STATION DURHAM, N. C.

BULLETIN
OF
DUKE UNIVERSITY



The Divinity School

ANNOUNCEMENTS FOR 1955-1956

VOLUME 27

May, 1955

NUMBER 7

Annual Bulletins

For GENERAL BULLETIN of Duke University, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF UNDERGRADUATE INSTRUCTION, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF THE COLLEGE OF ENGINEERING, apply to *The Registrar*, Duke University, Durham, N. C.

For BULLETIN OF THE GRADUATE SCHOOL OF ARTS AND SCIENCES, apply to *The Dean of the Graduate School*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF FORESTRY, apply to *The Dean of the School of Forestry*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF LAW, apply to *The Dean of the School of Law*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF MEDICINE, apply to *The Dean of the School of Medicine*, Duke University, Durham, N. C.

For BULLETIN OF THE SCHOOL OF NURSING, apply to *The Dean of the School of Nursing*, Duke University, Durham, N. C.

For BULLETIN OF THE DIVINITY SCHOOL, apply to *The Dean of the Divinity School*, Duke University, Durham, N. C.

For BULLETIN OF THE SUMMER SESSION, apply to *The Director of the Summer Session*, Duke University, Durham, N. C.

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BULLETIN
OF
DUKE UNIVERSITY



THE DIVINITY SCHOOL

1954-55

ANNOUNCEMENTS FOR 1955-56

DURHAM, NORTH CAROLINA

1955

Calendar



1955

- September 19 Monday, 9:00 A.M.—Dormitories open for occupancy.
2:30 P.M.—Orientation program for new students.
4:00 P.M.—First regular Faculty meeting.
- September 20 Tuesday, 9:00 A.M.-1:00 P.M.—Registration of new students.
2:00 P.M.-5:00 P.M.—Registration of returning students.
6:30 P.M.—Physical Examinations of all new students, Duke Hospital.
- September 21 Wednesday, 9:00 A.M.-5:00 P.M.—Registration of returning students.
2:00 P.M.-5:00 P.M.—Placement tests for all new students.
- September 22 Thursday, 8:30 A.M.—Instruction begins for fall semester.
10:30 A.M.—Formal opening exercises.
- October 3 Monday—Last day for changing courses for fall semester.
- November 23 Wednesday, 5:30 P.M.—Thanksgiving Recess begins.
- November 28 Monday, 2:00 P.M.—Thanksgiving Recess ends.
- December 11 Sunday—Founders Day.
- December 16 Friday, 5:30 P.M.—Christmas Recess begins.

1956

- January 2 Monday, 2:00 P.M.—Instruction is resumed.
- January 11, 12 and 13 Wednesday, Thursday, and Friday—Registration of resident students for second semester.
- January 17 Tuesday—Mid-year examinations begin.
- January 27 Friday—Mid-year examinations end.
- January 31 Tuesday—Registration for second semester of students not in residence during first semester, last day for matriculation for the spring semester.
- February 1 Wednesday, 8:30 A.M.—Second semester begins.
- February 10 Friday—Last day for changing courses for second semester.
- March 23 Friday, 5:30 P.M.—Spring vacation begins.
- April 2 Monday, 2:00 P.M.—Instruction is resumed.
- April 11 Wednesday, 7:00 P.M.—English Bible examination in Old Testament.
- April 19 Thursday, 7:00 P.M.—English Bible examination in New Testament.
- May 21 Monday—Final examinations begin.
- May 31 Thursday—Final examinations end.
- June 2 Saturday—Commencement begins.
- June 3 Sunday, 11:00 A.M.—Commencement Sermon.
7:30 P.M.—Divinity School Closing Exercises.
- June 4 Monday—Commencement Address, Graduating Exercises.
- June 5-8 Christian Convocation.

Officers of Administration



General Administration

ARTHUR HOLLIS EDENS, Ph.D., LL.D.
President of Duke University

WILLIAM HANE WANNAMAKER, A.M., Litt.D.
Vice-Chancellor of the University

PAUL MAGNUS GROSS, Ph.D.
Vice-President in the Educational Division

CHARLES EDWARD JORDAN, A.B., LL.D.
*Vice-President in the Division of Public Relations,
and Secretary of the University*

HERBERT JAMES HERRING, A.M., LL.D.
Vice-President in the Division of Student Life

ALFRED SMITH BROWER, A.B.
Business Manager and Comptroller

CHARLES BLACKWELL MARKHAM, A.M.
Treasurer of the University

COMMITTEE OF THE BOARD OF TRUSTEES ON THE DIVINITY SCHOOL

W. W. PEELE, H. B. PORTER, N. E. EDGERTON, E. H. NEASE, SR.

Educational Administration

JAMES CANNON, (1919) A.M., Th.M., D.D.
Dean of the Divinity School

HELEN MILDRED KENDALL, (1950) A.B.
Administrative Assistant and Secretary of the Faculty

DONN MICHAEL FARRIS, (1950) B.D., M.S. in L.S.
Librarian

ARLEY JOHN WALTON, (1948) B.S.L., D.D.
Director of Field Work

Staff

CAROLYN LITTLE
Secretary to the Dean

BARBARA CROW HOWARD, A.B.
Receptionist and Secretary

DORALYN HICKEY, M.A.
Assistant in the Library

Faculty



JAMES CANNON, (1919) A.M., Th.M., D.D.
*Dean of the Divinity School and Ivey Professor of the History of
Religion and Missions*

JAMES FOSTER BARNES, (1929) A.M.
Lecturer in Church Music

WALDO BEACH, (1946) B.D., Ph.D.
Professor of Christian Ethics

WILLIAM HUGH BROWNLEE, (1950) Th.M., Ph.D.
Assistant Professor of Old Testament

JOHN WILLIAM CARLTON, (1955) B.D.
Instructor in Preaching

KENNETH WILLIS CLARK, (1931) B.D., Ph.D.
Professor of New Testament

JAMES T. CLELAND, (1945) M.A., S.T.M., Th.D., D.D.
James B. Duke Professor of Preaching

ROBERT E. CUSHMAN, (1945) B.D., Ph.D.
Professor of Systematic Theology

WILLIAM DAVID DAVIES, (1950) B.D., M.A., D.D.*
Professor of Biblical Theology

RUSSELL L. DICKS, (1948) B.D., D.D., Litt.D.
Associate Professor of Pastoral Care

EDGAR BEAUREGARD FISHER, (1954) B.D.
Lecturer in Church Administration

ANDREW DURWOOD FOSTER, (1954) B.D.
Assistant Professor of the History and Philosophy of Religion

FRANKLIN SIMPSON HICKMAN, (1927) A.M., S.T.B., Ph.D., D.D.
Professor Emeritus of Psychology of Religion

WILLIAM ARTHUR KALE, (1952) B.D., D.D.
Professor of Christian Education

HELEN MILDRED KENDALL, (1950) A.B.
Administrative Assistant and Secretary of the Faculty

CREIGHTON LACY, (1953) B.D., Ph.D.
Assistant Professor of Missions and Social Ethics

HIRAM EARL MYERS, (1926) S.T.M., D.D.†
Professor of Biblical Literature

JESSE MARVIN ORMOND, (1923) B.D., D.D.‡
Professor Emeritus of Practical Theology

RAY C. PETRY, (1937) Ph.D., LL.D.
Professor of Church History

JAMES LIGON PRICE, JR., (1952) Ph.D.
Visiting Assistant Professor of Biblical Theology

* Resigned August 31, 1955.

† On sabbatical leave, spring semester, 1955-56

‡ Died, June 29, 1954.

EDWIN KELSEY REGEN, (1951) B.D., D.D.
Lecturer in Church Administration

McMURRY SMITH RICHEY, (1954) B.D., Ph.D.
Assistant Professor of the Philosophy of Christian Education

GILBERT THEODORE ROWE, (1928) S.T.D., D.D., Litt.D.
Professor Emeritus of Christian Doctrine

JOHN JESSE RUDIN, II, (1945) B.D., Ph.D.
Associate Professor of Speech

THOMAS ANTON SCHAFER, (1950) B.D., Ph.D.
Assistant Professor of Historical Theology

HILRIE SHELTON SMITH, (1931) Ph.D., D.D., Litt.D.
James B. Duke Professor of American Religious Thought

HERSEY EVERETT SPENCE, (1918) A.M., B.D., D.D., Litt.D.
Professor Emeritus of Religious Education

WILLIAM FRANKLIN STINESPRING, (1936) M.A., Ph.D.*
Professor of Old Testament

ARLEY JOHN WALTON, (1948) B.S.L., D.D.
Associate Professor of Church Administration and Director of Field Work

MILTON P. BROWN, (1955) B.D.
Assistant in New Testament Greek

ROBERT GRANVILLE GARDNER, (1954) B.D.
Assistant in Preaching

Committees of the Faculty

Admissions and Academic Standing: Cannon, Clark, Walton, Kale, Petry, Kendall.

Advisors to Students: Cushman, Dicks, Foster, Lacy, Rudin.

Alumni: Richey, Barnes, Myers, Carlton.

Chapel Services and Spiritual Life: Cushman, Rudin, Schafer, Richey, Brownlee.

Curriculum and Senior Seminars: Petry, Cannon, Stinespring, Kendall, Cushman, Kale.

Divinity School Bulletin: Cleland, Brownlee, Schafer, Foster, Lacy.

Divinity School Seminars: Clark, Cannon, Cushman, Dicks, Kale, Beach.

Library: Stinespring, Beach, Foster, Lacy, Farris.

Public Exercises: Smith, Beach, Cleland, Dicks, Brownlee.

Registration: Kendall, Stinespring, Beach, Rudin, Kale, Schafer, Foster.

Schedule: Kendall, Cannon, Petry.

Social: Clark, Stinespring, Carlton, Price, Richey.

JOINT AND SPECIAL COMMITTEES

Convocation: Cannon, Kale, Cleland, Walton, Rudin.

James A. Gray Lectures: Cannon, Cleland, Cushman, Smith, Schafer.

School for Approved Supply Pastors: Richey, Kale, Walton, Cannon.

Joint Summer Session Committee: Cannon, Petry, Smith, Kendall, Clyde.

Joint Phillips Brooks Club Committee: Schafer, Farris, Rudin, Robert L. Costner, E. T. Browne.

* On sabbatical leave, spring semester, 1955-56.

General Information



HISTORICAL STATEMENT

THE Indenture of Trust signed on December 11, 1924, by Mr. James B. Duke, which established Duke University, mentioned first among its objects the training of ministers of the Gospel. The Divinity School was, accordingly, the first of the graduate professional schools to be organized. Its work began with the year 1926-27, the formal opening exercises being held on November 9, 1926.

The Reverend Doctor Edmund Davison Soper was the first dean of the Divinity School. He resigned in 1928 to become President of Ohio Wesleyan University, and was succeeded by the Reverend Doctor Elbert Russell, and the latter in turn in 1941 by the Reverend Doctor Paul Neff Garber. In 1944, Dean Garber was elected to the episcopacy of the Methodist Church, and Doctor Harvie Branscomb assumed the duties of the dean's office. In 1946, Dean Branscomb became Chancellor of Vanderbilt University, and in 1947 the Reverend Doctor Paul E. Root was elected dean but died before he could assume the office. The Reverend Doctor Harold A. Bosley became dean in 1947 and resigned in 1950 to become the pastor of the First Methodist Church, Evanston, Ill. The Reverend Doctor James Cannon was appointed Dean of the Divinity School March 1, 1951.

THE PURPOSE OF THE DIVINITY SCHOOL

The primary purpose of the Divinity School is to provide training for individuals planning to enter the Christian ministry. This includes not only prospective ministers in local churches, but also those preparing themselves to be missionaries at home and abroad, Directors of Christian Education, teachers of religion, chaplains, and social workers. Vital to all of these forms of service is a full understanding of the beginnings, content, and history of the Christian faith and its special pertinence for the spiritual needs of the modern world. Studies of a broad and thorough character directed toward such an understanding constitute the center of the curriculum of the Divinity School and are regarded as the basic training for all prospective Christian workers. Specific training in the skills required of local ministers and of leaders in the work of Christian Education are also provided. As funds become available for the purpose and as needs appear, additional training in specialized skills and areas of knowledge will be added to the curriculum.

Though bound by ties of history and obligation to the Methodist Church, the Divinity School is ecumenical in its interests and outlook. Its faculty is limited to no one denomination, but draws upon the resources of them all. Students of the several denominations are admitted on the same basis. The Divinity School conceives its task to be one of broad service to the Church in all of its forms.

THE RELATION OF THE DIVINITY SCHOOL TO DUKE UNIVERSITY

The Divinity School is an integral unit of the University and shares fully in its activities, privileges, and responsibilities. The Sunday services in the University Chapel give Divinity School students an opportunity to hear each year a number of leading ministers of the country. The University Libraries make easily accessible a rich collection of 1,200,000 volumes. Selected courses in the Graduate School of Arts and Sciences and in the professional schools are open to Divinity School students without payment of additional fees. The general cultural and recreational resources of the University are available to them on the same basis as to other students.

LIBRARY RESOURCES

The Divinity School has its own newly remodelled library containing over seventy-three thousand volumes. It is rich in complete files of the more important religious journals and periodicals, in source materials, particularly for the study of medieval and American church history, Judaism, missions and the history of religion, and in facsimiles of the more important manuscripts of the New Testament. Among the most treasured possessions of the Library are twenty-three Greek manuscripts of the eleventh to seventeenth centuries. Fourteen are Greek New Testament, of which one is a magnificent manuscript of the thirteenth or fourteenth century, containing the entire text of the New Testament; four are liturgical manuscripts containing material valuable for studies in the New Testament and church history.

The combined libraries of the University contain over 1,200,000 volumes. The General Library of the University is connected by a corridor with the Divinity School Building. It contains seven hundred and fifty thousand volumes and receives the current issues of several thousand periodicals, more than two hundred of which are in the field of religion. The General Library contains also a catalogue of the library of the University of North Carolina located at Chapel Hill, twelve miles away, and a system of exchange operates between the two libraries, so that books may be secured from that library also within a few hours.

The Henry Harrison Jordan Loan Library was endowed in 1947 by the children of the late Reverend Henry Harrison Jordan, for the pur-

pose of providing ministers in the field with the best of current religious literature. This collection was an outgrowth of the Duke Divinity School Loan Library established in 1944.

RELIGIOUS AND SOCIAL LIFE

One of the most important aspects of a program of training for religious service is the development of a warm and discriminating spiritual experience. The center of the corporate life of the Divinity School is its own place of worship, York Chapel. Regular chapel services are held, at which all students are expected to be present. Services are led by members of the faculty, by visiting ministers, and by members of the student body. Several prayer groups are held in the dormitories weekly and special groups during the Lenten Season. Two Retreats are held each year. Ordination and other special services are held upon occasion. On each Sunday morning services are held in the University Chapel.

In 1952 the Doris Duke Foundation gave funds for the purchase and installation of a pipe organ in York Chapel.

The student body of the Divinity School is united by a strong sense of fellowship and common interest. Student committees organize and supervise social projects and missions of preaching, jail visitation, and related enterprises. Opportunities for occasional preaching are always available.

PUBLIC LECTURES

The Divinity School presents a number of public lecturers annually. The lecturers for 1954-55 were Dr. Oren H. Baker, of the Colgate-Rochester Divinity School; the Reverend Sir George F. MacLeod, of Scotland; Dr. Otto Nall, editor of *The Christian Advocate*; Dr. J. Robert Nelson, Secretary of the World Council of Churches, Commission on Faith and Order; Dr. Cecil Robbins, Editor of the *North Carolina Christian Advocate*; Dr. Paul Ramsey of the Department of Religion, Princeton University; Dr. Harold Henry Rowley, of the University of Manchester; Dr. Roger Shinn, Professor of Theology, Vanderbilt University; Dr. Ralph Stooddy, of Methodist Information; Bishop Donald H. Tippett of the San Francisco Area of the Methodist Church; Dr. Lee Tuttle, First Methodist Church, Charlotte; Miss Lucille Colony, Executive Secretary for India and Pakistan, Woman's Division of Christian Service; Dr. J. A. Engle, Executive Secretary of the Division of Education and Cultivation, Board of Missions; Dr. Ernest E. Tuck, director of the Advance Program and former missionary to the Philippines, Dr. M. O. Williams, Secretary of Missionary Personnel of the Methodist Board of Missions, and Dr. M. Leo Rippy, of the Methodist Board of Education.

THE DIVINITY SCHOOL LIBRARY LECTURES

In 1948 the Duke Divinity School Library Lectures were established by the Reverend George Brinkmann Ehlhardt for the purpose of bringing to the Divinity School a succession of great religious leaders. The following lecturers have appeared:

1948: The Reverend Doctor William Warren Sweet. 1949: The Reverend Doctor George Dunbar Kilpatrick. 1949: The Reverend Doctor Wilhelm Pauck. 1950: The Reverend Doctor John Cecil Trever. (This lecture was given in connection with the exhibition of three ancient Hebrew scrolls lent by His Eminence, Mar Athanasius Yeshue Samuel, Metropolitan and Archbishop of Jerusalem and Trans-Jordan). 1951: Bishop Paul Neff Garber. 1953: Dr. Roland H. Bainton. 1955: Dr. Mary Ely Lyman.

THE JAMES A. GRAY LECTURES

The James A. Gray Lectures were established in 1950, and the first series was given by Dr. Ralph W. Sockman, pastor of Christ Church (Methodist) of New York, during The Christian Convocation. The second series of these lectures was given at the 1951 Convocation by Dr. Paul E. Scherer of Union Theological Seminary, New York. The third series was given at the Convocation of 1952 by Dr. Liston Pope, Dean of Yale Divinity School. Dr. Charles W. Gilkey, Dean Emeritus of the Chapel of the University of Chicago, delivered the fourth series at the 1953 Convocation. Dr. Henry P. VanDusen, President of Union Theological Seminary, New York, was the lecturer in 1954. Dr. George Hedley, Chaplain of Mills College, California, was the lecturer in 1955.

THE CHRISTIAN CONVOCATION

The Christian Convocation of 1955 was held on the Duke campus from June 7-10. The Convocation, under the joint sponsorship of the Duke Divinity School, The North Carolina Pastors' School, and The Department of In-Service Training of the Board of Education of the Methodist Church, brought to the campus an outstanding group of religious leaders as lecturers and teachers. Dr. George Hedley delivered the sixth series of the James A. Gray Lectures; Dr. James T. Cleland was Convocation Preacher.

COURSES OF STUDY OFFERED BY THE DIVINITY SCHOOL

The Divinity School offers two courses of study. The basic course is that which leads to the degree of Bachelor of Divinity. This is a three-year course and is recommended to all those preparing themselves for the work of the regular pastoral ministry. Students who hold pastoral charges, or other remunerative work requiring any substantial time apart from their studies, may carry only reduced schedules

of work, and, in most cases, unless work is taken in the Duke University Summer Session, will spend four years in completion of the requirements for the B.D. degree.

The Divinity School offers also a course of study leading to the degree of Master of Religious Education. This course is designed for individuals who wish to become directors or to take other specialized positions in the work of Christian Education. The course does not provide a general preparation for the work of the regular ministry and cannot serve as a substitute for it. No exchange of credits between the two courses is permitted, nor can departmental courses taken be credited toward more than one degree. Only a limited number of candidates for the Master of Religious Education degree will be accepted annually.

The requirements for each of these degrees are stated on pages 15 through 24 of this catalogue.

COURSES OF STUDY IN RELIGION OFFERED BY THE GRADUATE SCHOOLS OF ARTS AND SCIENCES

Students who desire to pursue work in religion beyond that for the Bachelor of Divinity degree should register in the Graduate School of Arts and Sciences, through which the degrees of Master of Arts and Doctor of Philosophy in Religion may be obtained. This advanced work is administered through the Department of Religion of the Graduate School and is available to qualified persons of all denominations on an equal basis. Study and research may be pursued in three fields: (1) Biblical Studies; (2) Studies in Church History; and (3) Studies in Christian Thought. A list of courses approved by the Graduate Council for work in these fields, together with general requirements for admission to the Graduate School, may be found in the *Bulletin of the Graduate School*. This Bulletin is available on application to the Dean of the Graduate School of Arts and Sciences, Duke University.

A limited number of University Scholarships and Fellowships, among which are four Gurney Harriss Kearns Fellowships of \$1,200 each, may be obtained by exceptionally qualified students. Applications for these must be submitted to the Dean of the Graduate School on University forms not later than March 1 of each year.

Inquiries concerning specific requirements of the Department of Religion in the Graduate School should be addressed to Professor H. Shelton Smith, Director of Graduate Studies in Religion.

FACILITIES FOR ADVANCED STUDY IN THE AMERICAN SCHOOLS OF ORIENTAL RESEARCH

The Divinity School of Duke University is one of the supporting members of the American Schools of Oriental Research. Accordingly, students in the Divinity School have the privilege of attending the

American School in Jerusalem or the one in Bagdad without charge for tuition. They may also compete for the financial aids which are offered annually by the Schools. These consist of four fellowships, the stipends depending upon available funds.

DIVINITY SCHOOL SEMINARS

The Divinity School, under provision of the James A. Gray fund, conducts each year two extension seminars providing two-day study courses for ministers. In 1954-55 seminars were conducted at the First Methodist Church, Hickory, N. C. and the Edenton Street Methodist Church, Raleigh, N. C. Lecturers were Dr. Paul S. Minear, Dr. H. Shelton Smith, and Dr. Waldo Beach.

SCHOOL FOR APPROVED SUPPLY PASTORS

In cooperation with the Department of In-Service Training of the Board of Education and the Southeastern Jurisdictional Conference of the Methodist Church, the Divinity School conducts a School for Approved Supply Pastors of the Methodist Church. The school for 1955 is scheduled for July 19-August 5.

STUDENT GOVERNMENT ASSOCIATION

Each student of the Divinity School upon enrollment becomes a member of the Student Government Association. Four officers are elected by the student body annually in April to serve for the following year. These officers, the President, Vice-President, Secretary, and Treasurer, along with the Dean of the Divinity School, serve as the Executive Committee, and the committee chairmen constitute the Student Council, which meets in monthly session to review and coordinate the programs of the several committees. It is desired that all students contribute to the corporate life of the School through active participation in the work of the committees. The Association operates on the basis of a unified budget, each student contributing to its support dues in the amount of \$5.00 per year, payable at the time of fall registration; \$2.50 at spring registration for students who enter at that time.

Admission and Requirements for Degrees



Requirements for Admission

THE Divinity School is a fully accredited member of the American Association of Theological Schools, and is one of the ten accredited seminaries of the Methodist Church. Candidates for admission must hold the degree of A.B., or its equivalent, based upon four years of work beyond secondary education, in a college which is approved by one of the regional accrediting bodies, and their college records must be such as to indicate their ability to carry on graduate professional studies. They will be admitted without examination on presentation of an official transcript of college and all other academic credits which they may have secured. Women will be admitted on the same basis as men.

Applications may be rejected where transcripts show a considerable number of low grades even though the applicant may have eventually received a degree based upon a bare "C" average, especially where the applicant has required longer than the normal eight semesters of college work. Papers filed with applications are not returned.

The applications of students from foreign countries will be considered, each on its own merits, the general principle being that a training equivalent to that of a baccalaureate degree from an accredited American college must have been secured.

Because of the necessity of limiting admission of full three-year applicants, the Divinity School does not accept transfer students from other theological schools.

In addition to an adequate academic preparation, applicants must satisfy the Faculty as to their Christian character and purpose. A formal application blank may be secured from the office of the Divinity School. This must be filled out and returned by all candidates for admission. Application for admission should be made as soon as possible after the beginning of the applicant's last semester of college work. Applications received after April 1 cannot be assured of admission or financial aid for the ensuing academic year. A minimum of thirty days is required to process any application.

All persons admitted to the Divinity School are required to report to the Student Health Service, Duke Hospital, for physical examina-

tion on days and at hours specified at the time of matriculation. No admission is final until approved by the Student Health Service, which may require submission of a health certificate prior to arrival of prospective students. Applicants are also required to take certain tests administered by the Bureau of Testing and Guidance.

Persons who do not matriculate at the time for which they were originally admitted forfeit admission and must be formally re-admitted. A student who withdraws from the Divinity School and desires to return at a later date must file with the Dean a written request for a leave of absence.

The number of applications for admission to the School is considerably larger than the number of vacancies. In view of this fact, applicants are required on notification of admission to signify their acceptance within two weeks, and to pay an admission fee of \$15.00. (Make check payable to Treasurer of Duke University and send to the Office of the Dean of the Divinity School.) This fee is applied to the regular first-term bill if the student matriculates; if he fails to do so, the fee is forfeited. This does not apply to the Summer Session.

Under the terms of the Selective Service Act, as it now stands, pre-enrollment for later formal admission may be granted to persons who meet the Divinity School standards and requirements for admission. Applications for pre-enrollment may be addressed to the Office of the Dean. Pre-enrolled students must send transcripts of each year's college work by June 15th of each year in which they are pre-enrolled. *Pre-enrollment does not guarantee final admission*, and a person who has been pre-enrolled for any length of time must send a transcript of work by March 1 of the year in which admission is sought for the ensuing academic year. This must be accompanied by a letter from the college dean or other approved reference certifying to continued good character and conduct. The admission fee of \$15.00 is due within two weeks of receipt of notice of final admission.

Not over 30 semester hours of Summer Session work may be credited toward the degree of Bachelor of Divinity.

In view of the fact that enrollment must be limited, persons who have already received the B.D. degree from Duke or elsewhere will not be admitted to the Divinity School except as special students in the Summer Session.

By special permission a student who has begun his work in the Divinity School as a candidate for the B.D. degree may be given credit for not more than 30 semester hours of work taken in another seminary on the approved list of the American Association of Theological Schools. Except in unusual cases, request for such credits must be approved prior to the beginning of work at the other institution. In every such case, however, the final 15 hours of class credit presented for graduation must be done at Duke and must include satisfactory

completion of one of the Senior Seminars. No such student will be relieved of any of the requirements for graduation specified in the catalogue of the Divinity School.

Unless all the work offered for the B.D. degree is completed within a period of nine years from the date of beginning, the student will be required to make formal application for re-admission and re-evaluation of his credits in the light of the then-existing curriculum of the Divinity School. Except in unusual cases, work of a fragmentary character taken over a long period of years, or work taken many years before a student is admitted to the Divinity School, will not be accepted for credit toward the B.D. degree.

ADMISSION ON PROBATION

1. Applicants for admission who are graduates of non-accredited colleges will be considered on their merits, but only a few who give evidence of special promise will be admitted. Specifically, such applicants must show that they have attained a superior average (approximately "B") for a four-year college course.

Admission of such persons will, in every case, be *on probation*.

2. Applicants for admission who are graduates of accredited colleges but whose college transcripts do not fully meet Divinity School standards may also be admitted *on probation* if their recommendations justify consideration.

Probation means:

a. Students who, during the first year of Divinity School work (thirty semester hours), maintain a consistently low average, including one or more failures, will be required to withdraw from the school.

b. Students admitted on probation may carry only limited schedules of work, the amount to be determined by the Dean.

c. In the case of a student admitted on probation, no credit will be granted for any course in which, during the first year's work (thirty semester hours), a grade of less than "C" is recorded, unless the student's entire average in the year during which a "D" grade is received is "C" or better.

d. When the student has been admitted on probation, and is subsequently found to be deficient in the essential requisites of any given area of the "Pre-Seminary Curriculum" (see next section of catalogue), the Divinity School Faculty reserves the right to direct that the student make up such deficiencies by additional courses of study taken in other schools of Duke University in order to qualify for either the B.D. or M.R.E. degree, but without credit for such courses toward those degrees.

Students whose work after admission is not satisfactory may be

placed on probation for one or more semesters and may be denied credit for courses in which "D" grades are recorded.

PRE-SEMINARY CURRICULUM

The Divinity School, in substantial agreement with the standards of the American Association of Theological Schools, recommends that prospective candidates for admission keep in mind the desirability of including the following in their undergraduate curriculum:

It is suggested that a student should acquire a total of 90 semester hours or complete approximately three-fourths of his college work in the areas listed below. No work done towards a first college degree may be used toward a Divinity School degree.

<i>Basal Fields</i>	<i>Semester</i>	<i>Sem. Hours</i>
English	6	12-16
Literature, composition and speech		
Philosophy	3	6-12
At least two of the following:		
Introduction to philosophy, history of philosophy, ethics, logic.		
Bible or Religion	2	4-6
History	3	6-12
Psychology	1	2-3
A foreign language	4	12-16
Greek, Latin, and German are especially recommended.		
Natural sciences	2	4-6
Physical or biological		
Social sciences	2	4-6
At least two of the following:		
Economics, sociology, government or political science, social psychology, education.		

Concentration of work, or "majoring," is a common practice in colleges. For such concentration or major, a constructive sequence based upon any one, two, or three of the above fields of study would lead up naturally to a theological course.

Of the various possible areas of concentration, where areas of concentration are required, a major in English, philosophy, or history is regarded to be the most desirable.

Requirements for the Degree of Bachelor of Divinity

The requirements for graduation stated in this catalogue apply to all students who entered the Divinity School after June 1, 1954. Students who entered prior to that time may graduate under the new plan or under the curriculum which was in force at the time of their original entrance.

The requirements for the degree of Bachelor of Divinity fall into six categories as follows:

I. Required Courses, to be taken by all candidates for the degree.

- | | |
|--------------------------------------------------------------|--------|
| 11. Introduction to the Old Testament I | 3 s.h. |
| 12. Introduction to the Old Testament II | 3 s.h. |
| 13. History of the Church through the Protestant Reformation | 4 s.h. |
| 17. Effective Speaking | 2 s.h. |
| 18. Early Christian Life and Literature | 3 s.h. |
| 19. Introduction to New Testament Theology | 3 s.h. |

- | | |
|------------------------------------------------|--------|
| 20. Introduction to Christian Theology | 4 s.h. |
| 29-30. Sermon Construction—Theory and Practice | 4 s.h. |

II. Limited-Elective Courses.

These may be used also as free electives after the limited-elective requirements have been met, and for Vocational Group requirements.

- | | |
|---------------------------------------------------------------------------------------------------------------------|--------|
| 1. Two of the following three courses required: | |
| 22. The Philosophy of Christian Education | 3 s.h. |
| 27. Christian Ethics I | 3 s.h. |
| 31. Introduction to Philosophy of Religion (or 121) | 3 s.h. |
| 2. Two of the following three courses required: | |
| 14. History of the Modern Church | 2 s.h. |
| 21. Introduction to the History of Christian Doctrine | 2 s.h. |
| 28. Movements in American Religious Thought | 3 s.h. |
| 3. Three of the following four courses required (Students will note special requirements of each Vocational Group): | |
| 23. Church Administration I | 2 s.h. |
| 24. Philosophy of Christian Missions | 2 s.h. |
| 25. Educational Theory and Practice in the Church | 2 s.h. |
| 26. Introduction to Pastoral Care | 2 s.h. |

III. Vocational Groups.

Each student, not later than the end of the middle year, will choose one of the five Vocational Groups listed on Page 20 and will meet the vocational requirements of the group chosen.

IV. Senior Seminars.

Each student will elect one of the Senior Seminars listed on Page 35.

V. Free Electives.

The student will choose a sufficient number of courses to make up the total of 90 semester hours required for graduation. Language courses count as free electives.

VI. English Bible. Demonstration of a detailed knowledge of the contents of the narrative portions of the English Bible. Examinations for this purpose in Old and New Testament are given each spring. (See Calendar for exact dates.)

Students who show deficiencies in English will be required to take special training in addition to meeting the other requirements for the degree. A degree may be withheld on the grounds of English deficiency only.

FACULTY ADVISORS

Each entering student is assigned to a Faculty Advisor at the time of registration and must report to his Advisor within the first three weeks of the semester.

Suggested Distribution by Years of Required and * Limited-Elective Courses

FIRST (JUNIOR) YEAR

First Semester	Semester Hours	Second Semester	Semester Hours
<i>Required in this Semester</i>		<i>Required in this Semester</i>	
11. Introduction to the Old Testament I	3	18. Early Christian Life and Literature	3
13. History of the Church through the Protestant Reformation	4	20. Introduction to Christian Theology	4
17. Effective Speaking	2	Field Work Seminar (For those doing field work)	1
<i>*Limited-Electives Available in this Semester</i>		<i>*Limited-Electives Available in this Semester</i>	
23. Church Administration I	2	22. The Philosophy of Christian Education	3
31. Introduction to Philosophy of Religion	3	24. The Philosophy of Christian Missions	2
15 hours is the normal program; not over 16 hours may be scheduled.		English Bible Examinations	0
		15 hours is the normal program; not over 16 hours may be scheduled.	

SECOND (MIDDLE) YEAR

First Semester	Semester Hours	Second Semester	Semester Hours
<i>Required in this Semester</i>		<i>Required in this Semester</i>	
19. Introduction to New Testament Theology	3	12. Introduction to the Old Testament II	3
29. Sermon Construction—Theory	2	30. Sermon Construction—Practice	2
<i>*Limited-Electives Available in this Semester</i>		<i>*Limited-Electives Available in this Semester</i>	
21. Introduction to the History of Christian Doctrine	2	14. History of the Modern Church	2
25. Educational Theory and Practice in the Church	2	26. Introduction to Pastoral Care	2
27. Christian Ethics I	3	28. Movements in American Religious Thought	3
15 hours is the normal program; not over 16 hours may be scheduled.		15 hours is the normal program; not over 16 hours may be scheduled.	

*See page 16 for statement on Limited-Electives.

Schedule of Required and Limited-Elective Courses

FIRST YEAR—FIRST SEMESTER

<i>Hour</i>	<i>Monday</i>	<i>Tuesday</i>	<i>Wednesday</i>	<i>Thursday</i>	<i>Friday</i>	<i>Saturday</i>
8:30						
9:30		C. H. 13	C. H. 13	C. H. 13	C. H. 13	
10:30		Chapel	Chapel	Chapel	Chapel	
11:00		†Phil. R. 31	Assembly	†Phil. R. 31	†Phil. R. 31	
12:00		Speech 17†		Speech 17†		
2:00	O. T. 11	†C. A. 23	O. T. 11	†C. A. 23	O. T. 11	

FIRST YEAR—SECOND SEMESTER

<i>Hour</i>	<i>Monday</i>	<i>Tuesday</i>	<i>Wednesday</i>	<i>Thursday</i>	<i>Friday</i>	<i>Saturday</i>
8:30						
9:30		Theol. 20	Theol. 20	Theol. 20	Theol. 20	
10:30		Chapel	Chapel	Chapel	Chapel	
11:00		†Phil. C. Ed. 22	Assembly	†Phil. C. Ed. 22	†Phil. C. Ed. 22	
12:00		C. A. 142*	†H. R. 24	C. A. 144*	†H. R. 24	
2:00	N. T. 18		N. T. 18		N. T. 18	

*Students doing any kind of field work will choose one of these seminars.

†Additional sections of Speech are available.

†Limited-Elective.

SECOND YEAR—FIRST SEMESTER

<i>Hour</i>	<i>Monday</i>	<i>Tuesday</i>	<i>Wednesday</i>	<i>Thursday</i>	<i>Friday</i>	<i>Saturday</i>
8:30						
9:30		†C. Ed. 25	†H. T. 21	†C. Ed. 25	†H. T. 21	
10:30		Chapel	Chapel	Chapel	Chapel	
11:00		†C. E. 27	Assembly	†C. E. 27	†C. E. 27	
12:00		Preaching 29		Preaching 29		
2:00	N. T. 19		N. T. 19		N. T. 19	

SECOND YEAR—SECOND SEMESTER

<i>Hour</i>	<i>Monday</i>	<i>Tuesday</i>	<i>Wednesday</i>	<i>Thursday</i>	<i>Friday</i>	<i>Saturday</i>
8:30						
9:30			†Pastoral Care 26		†Pastoral Care 26	
10:30		Chapel	Chapel	Chapel	Chapel	
11:00		†Am. Rel. Th. 28	Assembly	†Am. Rel. Th. 28	†Am. Rel. Th. 28	
12:00		Preaching 30		Preaching 30		
2:00	O. T. 12	†C. H. 14	O. T. 12	†C. H. 14	O. T. 12	

†Limited-Elective.

THIRD (SENIOR) YEAR

Vocational Groups. One of these will be chosen by every B.D. candidate not later than the end of the Middle Year.

The student will also elect one Senior Seminar: he may not take more than one without special permission of the Dean. The Seminar will carry credit of two semester hours.

Electives in sufficient amount to complete 90 hours for graduation will be taken.

Speech 132 is required of all students found deficient in Speech and Preaching.

I. THE PREACHING MINISTRY AND PASTORAL SERVICE.

The student will plan his program so as to include:

Christian Education 25 and either 158 or 160 through 166.

Church Administration 23 and one additional course in that field.

Pastoral Care 26 and one additional course in that field.

Missions 24 and one course in Christian Ethics.

History of Religion, one course.

II. CHRISTIAN EDUCATION.

The student should plan his course so as to include: Six courses distributed between the fields of Church Administration and Christian Education, one of which must be Christian Education 22, 125, or 129; one Church Administration 23 and one Christian Education 25.

III. MISSIONS.

The student should plan his program so as to include Missions 24 and 133, one course in the History of Religion, one course in Christian Ethics; plus such courses as may be recommended by the instructor in Missions on the basis of each student's needs, interests, and previous choices.

IV. CHAPLAINCY: HOSPITAL, MILITARY, AND OTHER.

The student should plan his program so as to include Pastoral Care 26, 170, 174, 177, and either 171 or 172 and one course either in Philosophy of Religion or one of the following courses in Christian Education: 22, 125, or 129.

V. TEACHING AND RESEARCH IN RELIGION.

During the senior year, those choosing Vocational Group V must take one course from each of five fields drawn from the following ten:

American Religious Thought

Bible (may be language)

Christian Ethics

Church History

Historical Theology

Missions and Social Ethics

Christian Education

Christian Theology

Biblical Theology (O.T. 101, 301,

310, N.T. 116, 311, 312, 319)

History and Philosophy of

Religion

ADMINISTERING THE CURRICULUM

For the administration of the curriculum the following regulations have been adopted:

Full-time students must take the required courses as specified for the respective semesters, and are advised to choose the limited-electives as suggested for each semester.

Since the four and one-half day schedule and the free week-ends have been planned with special reference to the needs of students holding pastoral charges, such students are permitted, but not required, to carry the total of the hours of the required work and limited-electives as suggested for each of the first four semesters, but the total hours may not exceed thirteen without special permission of the Dean. The amount of work in the remaining semesters will be governed by the same principle. A student who does not do creditable work will be required to reduce his schedule. The schedules of all students are subject to the approval of the Dean.

The status of "special student" may not be granted simply to permit avoidance of the schedule of required courses. Every request for this classification will be carefully investigated and approval voted in each case by the Curriculum Committee in the cases of students already admitted to the Divinity School, and by the Admissions Committee in the case of applicants for admission as "special students."

A fee of \$10.00 is charged for auditing any course except where a student is already paying regular University fees. Permission to audit requires the approval of the Dean and the instructor concerned.

Students working under or assisted by the Duke Endowment, or by Divinity School funds, are required to take one of the Field Work seminars. This work will be taken in the second semester of the first year.

For a student taking both Greek and Hebrew, the Greek may be continued in the second year by postponing one or both of the required courses in Old and New Testament. In such cases, the Hebrew will be the free elective in that year.

A part-time student who desires to begin the study of Greek in the first year may postpone the required course in Old or New Testament.

Suitable entry will be made on the permanent record of any student who is granted permission to deviate from the requirements in the matter of language.

It is the responsibility of each student to see that he meets all requirements for graduation, and to take his courses in proper sequence. He is also responsible for seeing that any special permission granted him to deviate from the normal program is properly recorded in his personal file. Members of the Faculty have no authority to grant deviations unless these are stated in a letter from the instructor in question to the Dean and approved by him; these to be added to the student's permanent record.

Students who are reported by the treasurer's office as delinquent in their accounts will be debarred from examinations or credit in courses until cleared by the treasurer's office. Transcripts will not be issued for delinquent students.

GRADING SYSTEM

The grading system of the Divinity School employs the letters A, B, C, D, and F, which have been defined as follows: A = Excellent; B = Good; C = Acceptable; D = Poor; F = Failure; WP = Withdrew Passing; WF = Withdrew Failing; and Inc. = Incomplete. (See below.) No percentage equivalents are stated. A student is expected to maintain an average of C.

The Faculty has voted that in the average course of considerable size, especially required and limited-elective courses, the total of A and B grades should normally not run above $33\frac{1}{3}\%$. In all courses where the instructor considers attendance a necessary part of the work of the course, a student may not receive a grade of over C if his absences total 12% of the regular class periods, and if the absences total 24% of the class periods he may not receive credit for the course.

Grades of Incomplete received at the end of the fall semester must be removed by the completion of the work of the course not later than March 15. Grades of Incomplete received at the end of the spring semester must be removed by October 1. If the work of the course is not completed by these dates, the grades shall be recorded as "F."

No student shall be permitted to drop a course after the expiration of one-third of the period of instruction of the course without incurring failure, except for causes adjudged by the Dean to be beyond the student's control.

Requirements for the Degree of Master of Religious Education

The course of study leading to this degree is designed for individuals desiring to engage in various forms of Christian Education.

Candidates for this degree must hold the degree of A.B. (or its equivalent), based upon four years of work beyond secondary education, in a college which is approved by one of the regional accrediting bodies, and with academic and personal records which afford promise of competence in this area of service. The course of study will be especially useful for individuals who have had one or more years of experience in Christian Education and desire further training. Candidates for this degree will be limited in number, and individuals interested are urged to apply for admission well in advance of the opening of the academic year. All work offered for this degree, whether in the regular year or in summer sessions, must be completed within a period of six years from the date of beginning.

PREREQUISITES

Three of the following five prerequisite studies must have been taken by the candidate prior to his admission to the Divinity School or must be secured, without credit toward the M.R.E. degree, after being admitted:

General Psychology	3 s.h.
Sociology	3 s.h.
Education	3 s.h.
Philosophy	3 s.h.
Religion	3 s.h.

GENERAL REQUIREMENTS

Sixty semester hours of graduate-professional work are required for graduation. Not more than twelve semester hours of this work may be taken in approved summer sessions, and not more than eighteen semester hours outside of the Divinity School.

No credits are allowed for undergraduate courses. However, in approving plans of study leading to this degree, consideration will be given to earlier work taken in the fields of Biblical studies and Christian Education provided such courses were taken in the Junior and Senior years in accredited four-year colleges. Also where candidates for the degree have been engaged professionally as Directors of Christian Education for not less than twelve months prior to entering the Divinity School the amount of Field Work may, upon recommendation of the Director of the M.R.E. program and the approval of the Dean, be reduced to not less than six hours of Project or Directed Field Work during the period required for completing requirements for the degree.

A student who secures credit for 15 semester hours each semester will be in line for graduation at the end of two academic years. The amount of work allowed in each semester may not exceed that permitted in the B.D. curriculum.

COURSE REQUIREMENTS

(Not to include any courses numbered above 199, except in Biblical Studies.)

Not less than six semester hours of Divinity School work in Biblical Studies (including both Old and New Testaments) for all M.R.E. candidates, and up to twelve semester hours of such work for candidates adjudged to be insufficiently prepared in Biblical Studies.

Not less than nine nor more than fifteen semester hours in the field of Christian Education, to be distributed as follows: not less than six nor more than twelve semester hours in courses in the practical

aspects of Christian Education, and not less than three in the psychological and philosophical aspects of Christian Education.

Not less than four nor more than seven semester hours, taken in two fields, chosen from the offerings in Christian Theology, Christian Ethics, and American Religious Thought.

Not less than four nor more than seven semester hours, taken in two fields, chosen from the offerings in Church History, Historical Theology, and Philosophy of Religion.

Not less than four nor more than five semester hours, taken in two fields, chosen from the offerings in Missions, Church Administration, and Pastoral Care.

Not less than two nor more than three semester hours, taken in one field, chosen from the offerings in Speech, Public Worship, and Church Music.

Project or Directed Field Work: Not less than six nor more than twelve semester hours.

Free electives in sufficient amount to complete sixty hours for graduation will be taken, if necessary.

Senior Seminars: The Senior Seminars of the B.D. curriculum are open to M.R.E. candidates only in the second year, by special permission of the Dean.

Conduct and Ministerial Acceptability

All students are admitted subject to the rules of the University and of the Divinity School, and continuance in the School is conditioned upon the observance of such rules.

The University expects of its students loyal and hearty cooperation in maintaining high standards of conduct as well as of scholarship. The University, therefore, reserves the right, and matriculation by the student is a concession of this right, to compel the withdrawal of any student whose conduct at any time is not satisfactory to the University, even though no specific charge is made against the student.

Divinity School students whose progress and development show that they are not suited to the work of the ministry will not be permitted to continue in the School.

Courses of Instruction*



REQUIRED courses, Limited-Electives, and Senior Seminars are numbered from 11 to 99. Elective courses carrying credit in the Divinity School only are numbered from 101 to 199. Courses approved for credit in both the Divinity School and the Graduate School of Arts and Sciences are numbered above 200. Lists of courses to be offered in any semester will be available at the time of each registration.

I. Biblical Studies

OLD TESTAMENT

11. INTRODUCTION TO THE OLD TESTAMENT I.—The origin, literary forms, and contents of the books of the Old Testament in their geographical and historical setting to the Exile. 3 s.h.
MR. STINESPRING

12. INTRODUCTION TO THE OLD TESTAMENT II.—The Post-Exilic period with special reference to Psalms, wisdom literature, and the problem of theodicy. 3 s.h.
MR. BROWNLEE

101. POST-EXILIC PROPHECY.—A study of the Post-Exilic prophets from Ezekiel to Daniel, with special reference to Messianic prophecy. 3 s.h.
MR. BROWNLEE

196. THE BIBLE AND RECENT DISCOVERIES.—A survey of the contribution of the cultural setting of the Bible as an aid to its understanding. Illustrated with archaeological slides. 3 s.h.
MR. BROWNLEE

197. CULTURAL HISTORY OF PALESTINE.—A study of significant contributions to civilization made in ancient, medieval, and modern Palestine with special reference to the three religions, Judaism, Christianity, and Islam. 3 s.h.
MR. STINESPRING

201-202. FIRST HEBREW.—The principles and structure of the Hebrew language with translation of selected Old Testament narratives. 6 s.h.
MR. STINESPRING

207-208. SECOND HEBREW.—II Samuel the first semester and the Qumran Isaiah Scroll the second. 6 s.h.
MR. BROWNLEE

301. THE RELIGIOUS THOUGHT OF POST-EXILIC JUDAISM.—A study of the development of religious ideas in Post-Exilic Judaism. Prerequisite: O.T. 11. 3 s.h.
MR. BROWNLEE

304. ARAMAIC.—A study of the Aramaic portions of the Old Testament, and selected passages from the Targums, Midrashes, and Talmuds. 3 s.h.
MR. STINESPRING

305. THIRD HEBREW.—A study of late Hebrew prose, with readings from Chronicles, Ecclesiastes, and the Mishnah. 3 s.h.
MR. STINESPRING

* On recommendation of the Dean, courses offered in the Graduate School of Arts and Sciences other than those approved for credit in the Divinity School may be approved for credit in individual cases, provided no equivalent course is offered in the Divinity School; each case to be decided on its merits.

306. ADVANCED HEBREW.—A course on the Dead Sea Scrolls. 3 s.h.

MR. BROWNLEE

307. SYRIAC.—A study of the script and grammar, with readings from the Syriac New Testament and other early Christian documents. Some knowledge of Hebrew and Aramaic prerequisite. 3 s.h.

MR. STINESPRING

309. HISTORY OF THE ANCIENT NEAR EAST.—A specialized study of the civilizations of Egypt, Palestine, Syria, and Mesopotamia in the light of Biblical archaeology. 3 s.h.

MR. STINESPRING

310. OLD TESTAMENT PROPHECY.—The prophetic movement in Israel with special emphasis on the prophets of the eighth century B.C. Prerequisite: O.T. 11 and O. T. 12. 3 s.h.

MR. STINESPRING

SEE ALSO Pr. 183.

*HISTORY OF ART 215. RELIGIOUS ART OF THE ANCIENT NEAR EAST.—The development of art, particularly architecture and sculpture, as the material expression of religious ideas in Egypt, Mesopotamia, and in part Syria and Palestine to the Persian conquest. 3 s.h.

MR. MARKMAN

*HISTORY OF ART 216. RELIGIOUS ART OF THE CLASSICAL WORLD.—The religious art, particularly architecture and sculpture, of Greece and Rome with special emphasis on the monuments in the Near East. 3 s.h.

MR. MARKMAN

NEW TESTAMENT

18. EARLY CHRISTIAN LIFE AND LITERATURE.—A basic study of the civilization in which Christianity began; the origin and development of the Christian Church and its literature through the second century. 3 s.h.

MR. CLARK

19. INTRODUCTION TO NEW TESTAMENT THEOLOGY.—A constructive analysis and exposition of the positive doctrinal content of the New Testament. Prerequisite: N. T. 18. 3 s.h.

MR. PRICE

103-104. HELLENISTIC GREEK.—Designed for beginners to enable them to read the Greek New Testament. 6 s.h.

MR. BROWN

105. LIFE OF PAUL.—A study of Paul's life on the basis of Acts and the letters of Paul, emphasizing the permanent values in Paul's work and his contribution to the world. 3 s.h.

MR. MYERS

109. HISTORY OF THE ENGLISH BIBLE.—A general study of the history of the English version with comparison and evaluation of the numerous contemporary translations. This development will be illustrated from the Divinity School Bible collection, with access to and examination of the original editions. 3 s.h.

MR. CLARK

116. LIVING ISSUES OF NEW TESTAMENT THEOLOGY.—2 s.h.

MR. PRICE

217. THE NEW TESTAMENT IN GREEK.—Extensive reading of the Greek text of the New Testament, with special emphasis upon its interpretation. Prerequisite: six semester hours' study of the Greek language. 3 s.h.

MR. CLARK

218. GALATIANS AND I CORINTHIANS.—A detailed study of two of Paul's major epistles, based on the Greek text. Prerequisite: six semester hours' study of the Greek language. Alternate priority. 3 s.h.

MR. PRICE

220. I PETER AND THE GOSPEL OF JOHN.—A detailed study of two of the non-Pauline writings of the New Testament. The course will be based on the Greek text. Prerequisite: six semester hours' study of the Greek language. Alternate priority. 3 s.h.

MR. PRICE

311. THE LIFE AND TEACHINGS OF JESUS.—A study of the events and sayings of the historical Jesus, in the light of His mission. 3 s.h.

MR. CLARK

* Course offered in the Graduate School of Arts and Sciences which is credited toward the degree of Bachelor of Divinity.

312. **ADVANCED NEW TESTAMENT THEOLOGY.**—An examination of the central aspects of New Testament Theology. Prerequisite: N.T. 19. 3 s.h.

MR. PRICE

313. **APOSTOLIC FATHERS.**—A study of the Christian development from Clement of Rome to Polycarp (90-155 A.D.), with readings in the Greek text. 3 s.h.

MR. CLARK

314. **PATRISTIC THOUGHT.**—A study of the development of early Christian doctrine to the period of Irenaeus. Prerequisite: N.T. 19. 3 s.h.

316. **HELLENISTIC RELIGIONS.**—A study of the Gentile religions in the Roman Empire, at the beginning of the Christian era. Prerequisite: N.T. 18. 3 s.h.

MR. CLARK

317. **THE SYNOPTIC GOSPELS.**—A detailed study of their characteristics and contents, based upon the Greek text, with attention to their respective sources and to the development of synoptic criticism. Prerequisite: N.T. 18. 3 s.h.

MR. CLARK

318. **TEXTUAL CRITICISM OF THE NEW TESTAMENT.**—A study of the scientific recovery of the Greek text on which modern versions are based; manuscript discoveries; principles of textual criticism; practice in collating original manuscripts in the Duke collection. 3 s.h.

MR. CLARK

319. **JUDAISM AND EARLY CHRISTIANITY.**—3 s.h.

SEE ALSO Pr. 184 and 186.

*GREEK 257.—The social and cultural history of the Hellenistic world from Alexander to Augustus. 3 s.h.

MR. ROGERS

*LATIN 258.—The social and cultural history of the Graeco-Roman world. 3 s.h.

MR. ROGERS

II. Historical Studies

HISTORY OF RELIGION AND MISSIONS

24. **PHILOSOPHY OF THE CHRISTIAN WORLD MISSION.**—A study of theological foundations, guiding principles, and contemporary problems of the World Christian Community. 2 s.h.

MR. LACY

108. **COMPARATIVE RELIGION I.** Analysis of the Ultimate Reality, the human situation, and the fulfillment of life as conceived by the great world religions including Christianity. Prerequisite: H.R. 159 or permission of instructor. 3 s.h.

MR. FOSTER

126. **MISSIONARY EDUCATION IN THE CHURCH.**—Practical programs for Church School, audio-visual aids, preaching, stewardship, and special projects. 2 s.h.

MR. LACY

133. **HISTORY OF CHRISTIAN MISSIONS.**—A survey of the spread of Christianity with special emphasis on 19th and 20th century Protestantism. 2 s.h.

MR. LACY

135. **AREA STUDIES OF THE CHRISTIAN CHURCH.**—The cultural setting and current programs and policies of the Church in one of the following areas: a. Latin America, b. India and Pakistan, c. Africa, d. Southeast Asia, e. Japan-Korea-Philippines, f. Moslem Lands, or g. United States Home Missions. (The area of study to be determined by student interest in consultation with the instructor.) 2 s.h.

MR. LACY

* Course offered in the Graduate School of Arts and Sciences which is credited toward the degree of Bachelor of Divinity.

159. LIVING RELIGIONS OF THE NON-CHRISTIAN WORLD. The basic introductory course in History of Religion. Brief consideration of the nature, origin and characteristic phenomena of religion generally, followed by a survey of the major non-Christian religious traditions in their historical development. 3 s.h.

MR. FOSTER

CHURCH HISTORY

13. HISTORY OF THE CHURCH THROUGH THE PROTESTANT REFORMATION.—A survey through the sixteenth century in terms of spiritual genius, organizational development, great literature, and representative movements. 4 s.h.

MR. PETRY

14. HISTORY OF THE MODERN CHURCH.—A survey of the main currents in post-reformation and modern church history. 2 s.h.

MR. SCHAFER

136. PRE-REFORMATION PREACHING.—Sermons, handbooks, and other historical sources studied in relation to Biblical preaching and the liturgical church, the problem of popular ministry and the issues of Christian reform. Prerequisite: C.H. 13. 2 s.h.

MR. PETRY

137. RELIGIOUS LEADERS IN CHRISTIAN HISTORY.—Representative leaders in the early and medieval church studied in relation to contemporary churchmanship. Prerequisite: C.H. 13. 3 s.h.

MR. PETRY

138. GREAT BOOKS IN CHRISTIAN HISTORY.—An intensive study of Augustine's *Confessions*, Thomas à Kempis' *Imitation of Christ*, Erasmus's *Complaint of Peace*, Luther's *Christian Liberty*, Calvin's *Instruction in Faith*, and Andrewes' *Private Devotions*. 3 s.h.

MR. PETRY

139. METHODISM.—A study of Methodist societies in England and the developing church in America as they gave rise to such historic issues as polity, education division, and reunion. Prerequisite: C.H. 13. 2 s.h.

MR. PETRY

330. THE CHURCH IN EUROPE SINCE 1800.—Emphasis is placed on the relation of the church to the social, economic, and political life of Modern Europe. Particular attention is given to Papal pronouncements on social issues, the relationship of Eastern to Western institutions, and ecclesiastical historiography as it involves source editions, periodicals, and ecumenical literature. 3 s.h.

MR. PETRY

331. THE SOCIAL MESSAGE OF THE EARLY AND MEDIEVAL CHURCH.—A study of the social teachings and contributions of the Christian church prior to the Protestant Reformation. Prerequisite: C.H. 13. 3 s.h.

MR. PETRY

332. THE MEDIEVAL CHURCH.—Outstanding characteristics of the medieval church, emphasizing theory, polity, institutions, sacraments, and worship. Prerequisite: C.H. 13. 3 s.h.

MR. PETRY

334. CHURCH REFORMERS AND CHRISTIAN UNITY.—The work of such reformers as Marsilius of Padua, William of Ockham, Jean Gerson, Pierre d'Ailly and Nicholas of Cusa in relation to ecclesiastical schism and the search for Christian unity through representative councils. Prerequisite: C.H. 13. 3 s.h.

MR. PETRY

336. CHRISTIAN MYSTICISM IN THE MIDDLE AGES.—Source studies, in historical perspective, of such late medieval mystics as Bernard of Clairvaux, the Victorines, Ramon Lull, Meister Eckhart, Richard Rolle, Catherine of Siena, and Nicholas of Cusa. Prerequisite: C.H. 13. 3 s.h.

MR. PETRY

HISTORICAL THEOLOGY

21. INTRODUCTION TO THE HISTORY OF CHRISTIAN DOCTRINE.—Formative periods of doctrine and controversy illustrating the nature and content of historical theology. 2 s.h.

MR. SCHAFER

120. THE CREEDS OF CHRISTENDOM.—A historical and interpretative study of great Christian creeds and confessions. Prerequisite: C.T. 20. 3 s.h.

MR. SCHAFER

129. SEMINAR IN HISTORICAL THEOLOGY.—Selected problems in the history of Christian theology. Prerequisite: H.T. 21. 3 s.h. MR. SCHAFER

198. THE HERITAGE OF THE REFORMATION.—The doctrine and practice of the Reformers studied for their contribution to the life and thought of the modern church. 3 s.h. MR. SCHAFER

323. HISTORY OF CHRISTIAN THOUGHT I.—A historical study of theology in the ancient and medieval church. Prerequisite: permission of instructor. 3 s.h. MR. SCHAFER

324. HISTORY OF CHRISTIAN THOUGHT II.—A historical study of theology from the Reformation. Prerequisite: permission of instructor. 3 s.h. MR. SCHAFER

AMERICAN RELIGIOUS THOUGHT

28. MOVEMENTS IN AMERICAN RELIGIOUS THOUGHT.—Beginning with the English Reformation, this course introduces the leading types of Protestantism transplanted to or developed within colonial America, primary emphasis being placed upon the dominant modes of Christian thought. 3 s.h. MR. SMITH

199. THE AMERICAN SOCIAL GOSPEL.—A study of Protestant social thought and action in America since 1865. 3 s.h. MR. SMITH

395. RELIGIOUS THOUGHT IN COLONIAL AMERICA.—Consideration of the principal types of Protestant thought in colonial culture. 3 s.h. MR. SMITH

396. AMERICAN RELIGIOUS THOUGHT IN THE NINETEENTH CENTURY.—Comparative exposition of Orthodoxy and Liberalism. 3 s.h. MR. SMITH

397. CURRENT AMERICAN THEOLOGY.—Critical appraisal of conflicting tendencies in American theological thought. 3 s.h. MR. SMITH

398. MODERN AMERICAN CHRISTOLOGY.—An analysis of the historical development of modern American conceptions of the person and work of Christ. 3 s.h. MR. SMITH

495. SEMINAR: JONATHAN EDWARDS AND JOHN WESLEY.—A comparative study of the major theological works of Edwards and Wesley. 2 s.h. MR. SMITH

498. SEMINAR: THEOLOGY OF PAUL TILLICH.—An examination of Tillich's philosophical theology. MR. SMITH

III. Theological Studies

PHILOSOPHY OF RELIGION

31. INTRODUCTION TO PHILOSOPHY OF RELIGION. Historical orientation to the problems and types of religious philosophy in Western Culture. 3 s.h. MR. FOSTER

110. CHRISTIAN FAITH AND MODERN SCIENCE. Relations, tensions, and possible harmonizations of scientific methodology and modern scientific knowledge with the Christian Faith. 2 s.h. MR. FOSTER

121. CONCEPTS OF DEITY. Analysis of the outstanding ideas of God in the history of human thought, including the contemporary scene. 3 s.h. Consent of instructor. MR. FOSTER

CHRISTIAN THEOLOGY

20. INTRODUCTION TO CHRISTIAN THEOLOGY.—Contemporary theological tendencies, method and theory of knowledge, and introductory interpretation of the principal tenets of the Christian faith. 4 s.h. MR. CUSHMAN

107. **THE PERSON AND WORK OF CHRIST.**—An intensive examination of classical types of Christological and soteriological formulation in the history of Christian reflection, assessment and constructive position. Prerequisite: C.T. 20. 2 s.h. MR. CUSHMAN

224. **CONCEPTIONS OF MAN IN WESTERN THOUGHT.**—An analysis and interpretation of important types of philosophical and theological theory. 3 s.h. MR. CUSHMAN

321. **PLATONISM AND CHRISTIANITY.**—An analysis of Plato's religious philosophy and a survey of its continuing influence in Hellenistic and Christian thought. Prerequisite: permission of instructor. 3 s.h. MR. CUSHMAN

322. **THEOLOGY AND PHILOSOPHY IN THE NINETEENTH CENTURY.**—Protestant thought from Schleiermacher to Troeltsch together with representative theologians of Britain. 3 s.h. MR. CUSHMAN

325. **PHILOSOPHICAL THEOLOGY I.**—Constructive approach to the problem of faith and reason. Prerequisite: Permission of instructor. 3 s.h. MR. CUSHMAN

326. **PHILOSOPHICAL THEOLOGY II.**—Main problems in the history of philosophical theology. Prerequisite: C.T. 325. 3 s.h. MR. CUSHMAN

328. **SEMINAR IN TWENTIETH-CENTURY CONTINENTAL AND BRITISH THEOLOGY.**—Critical examination of the thought of Barth, Brunner, Berdyaev, Maritain, F. R. Tennant, and William Temple. 3 s.h. MR. CUSHMAN

SEE ALSO NEW TESTAMENT 312.—ADVANCED NEW TESTAMENT THEOLOGY.

CHRISTIAN ETHICS

27. **CHRISTIAN ETHICS I.**—The central assumptions and principles of the Christian conception of the good life. 3 s.h. MR. BEACH

114. **CHRISTIAN ETHICS II.**—A consideration of special problems involved in the application of Christian ethics in modern society. Prerequisite: C.E. 27. 2 s.h. MR. BEACH

190. **THE CHRISTIAN CRITIQUE OF COMMUNISM.**—Analysis of and alternatives to the dynamic secular ideology from a religious standpoint. 3 s.h. MR. LACY

192. **CHRISTIANITY AND INTERNATIONAL RELATIONS.**—An application of Christian Ethics to world problems. 3 s.h. MR. LACY

194. **INTRODUCTION TO CHRISTIAN SOCIAL ETHICS.**—Christian norms for social policy and their application to the domestic, economic, political, and racial patterns of modern culture. 3 s.h. MR. LACY

391. **HISTORICAL TYPES OF CHRISTIAN ETHICS I.**—A critical study of representative statements of Christian ethical theory, through the early Reformation. Prerequisite: C.E. 27 or its equivalent. 3 s.h. MR. BEACH

392. **HISTORICAL TYPES OF CHRISTIAN ETHICS II.**—A continuation of C.E. 391, from the Reformation through current Christian ethical theory. Prerequisite: C.E. 391. 3 s.h. MR. BEACH

393. **THE CHRISTIAN INTERPRETATION OF HISTORY.**—A comparative examination of the chief secular and Christian theories of history current in Western thought. For advanced students. Prerequisite: C.E. 27. 3 s.h. MR. BEACH

394. **CHRISTIANITY AND THE STATE.**—The relation of the Christian theory of the State to political problems with special consideration of the religious assumptions underlying democratic theory and practice, and of the relationship of church to state. Prerequisite: C.E. 27. 3 s.h. MR. BEACH

IV. Practical Studies

CHURCH ADMINISTRATION

23. **CHURCH ADMINISTRATION I.**—An introduction to the administrative and supervisory procedure essential in the total work of the church. 2 s.h.

MR. WALTON

142. **FIELD WORK I—GENERAL.**—A course designed to help with personal and parish problems, and the techniques of successful service. 1 s.h. (Note: All students working under or assisted by the Duke Endowment or by Divinity School funds are required to take this course, or 144, Field Work II, or 145, Field Work III.)

MR. WALTON

144. **FIELD WORK II—RURAL.**—This course is designed to prepare students for work in rural churches. It emphasizes the training values in field work. 1 s.h.

MR. WALTON

145. **FIELD WORK III—URBAN.**—This course is designed to prepare students for work in urban churches. It is planned to help the student fit into the urban situation and to gain the most from his field work. 1 s.h.

MR. FISHER

146. **CHURCH ADMINISTRATION II.**—This course considers the principles of program planning, policy development, and leadership enlistment and training in the church. 3 s.h.

MR. WALTON

147. **THE URBAN COMMUNITY.**—The urban environment viewed in relation to the people, institutions, organizational structure and constitutive forces giving rise to urbanism as a way of life. 2 s.h.

MR. REGEN

148. **CHURCH FINANCE.**—A seminar to consider the principles of budget making, stewardship instruction, and every member enlistment in church support. 2 s.h.

MR. WALTON

149. **PARISH AND COMMUNITY RESEARCH AND ANALYSIS.**—A seminar to consider the techniques of community surveys, research, and analysis. Attention is given to the use of research data in program planning and in checking on the effectiveness of church work. 2 s.h.

MR. WALTON

150. **THE RURAL PASTOR AND HIS WORK.**—A study of the qualifications of the rural pastor and his task. Attention is given to the supervisory methods and material available for the pastor's use and to the current trends in rural life and their influence upon church work. 3 s.h.

MR. WALTON

151. **THE RURAL CHURCH.**—A study of rural conditions and the place of the church as a community institution and the problems and situations met in local church management and supervision. 3 s.h.

MR. WALTON

152. **PARISH EVANGELISM.**—A study seeking to prepare the student to plan a comprehensive and continuous program of evangelism for the local church. 2 s.h.

MR. FISHER

153. **AUDIO-VISUAL AIDS.**—The principles and methods of audio-visual aids in the program of the church. 2 s.h.

MR. WALTON AND OTHERS

154. **THE URBAN CHURCH.**—A consideration of the function, nature, program, and administration of the effective city church and of the urban minister's distinctive task. 2 s.h.

MR. REGEN

155. **CHURCH POLITY: COMPARATIVE AND DENOMINATIONAL.**—This is a study of the polity of the different denominations in which the students may serve, based upon the disciplines and practices of the respective denominations. 2 s.h.

MR. FISHER, MR. REGEN AND OTHERS

(The plan of this course is for the class to meet as a unit one hour a week for the study of the common interests of the denominations; for the other hour the class is divided into groups on the following plan:

a. THE POLITY OF THE METHODIST CHURCH.—The study will be based upon the Methodist Discipline. MR. FISHER

b. THE POLITY OF THE BAPTIST CHURCHES.

c. THE POLITY OF THE CONGREGATIONAL-CHRISTIAN CHURCHES.

d. THE POLITY OF THE PRESBYTERIAN CHURCHES. MR. REGEN

(Courses in the polity of other churches will be arranged as needed.)

157. GROUP WORK.—The principles and skills required in group work as they apply to discussion groups, forums, panels, guided neighborhood conversation groups, social work, community organization and action. 2 s.h. MR. WALTON AND OTHERS

FIELD WORK CREDIT.—Granted on written recommendation of the Director of Field Work upon the completion of satisfactory work in C.A. 23, the completion of Field Work Seminar, 142, 144, or 145, and the performance of successful field work. 1 s.h. (Available only in the senior year.)

CHRISTIAN EDUCATION

22. PHILOSOPHY OF CHRISTIAN EDUCATION.—A basic study of the implications of theology and of educational theory for a philosophy of Christian education. 3 s.h. MR. RICHEY

25. EDUCATIONAL THEORY AND PRACTICE IN THE CHURCH.—An overall and introductory view of the educational functions of the church. Consideration is given to the work of organization, administration and supervision of the church school. 2 s.h. MR. KALE

125. PSYCHOLOGY AND THEOLOGY.—An inquiry into the relations of psychological and theological interpretations of man. 3 s.h. MR. RICHEY

129. PSYCHOLOGY OF RELIGIOUS DEVELOPMENT.—Psychological foundations of religious nurture of children and youth. 2 s.h. MR. RICHEY

131. (Formerly 22.) PSYCHOLOGY OF RELIGION.—A study of psychological aspects of the religious life. 2 s.h. MR. RICHEY

158. CHRISTIAN EDUCATION AND THE COMMUNITY.—A study of the principles, practices, methods and materials of Christian Education as related to the total community life. 3 s.h. MR. KALE

159. CHRISTIAN FAITH AND HIGHER EDUCATION.—An examination of current philosophies of religion in higher education, with reference to student religious work and college teaching of religion. 2 s.h. MR. RICHEY

160. EVANGELISM IN THE CHURCH SCHOOL.—A study of the place of evangelism in the work of the church school. 2 s.h. MR. KALE

161. THEORIES, TYPES AND TECHNIQUES OF TEACHING.—A study of the main principles underlying religious teaching with an examination of the different methods of teaching. 3 s.h. MR. KALE

162. METHODS AND MATERIALS OF CHRISTIAN EDUCATION.—A consideration of the principal administrative problems of the church school, of the various concepts of the curriculum, and an examination of existing curricula, their nature, use and value. 3 s.h. MR. KALE

163. WORSHIP AND DRAMA.—Worship in its bearings upon the educational functions of the Christian religion. The use of drama in Christian Education with the creation of dramatic programs of worship and drama writing and production. 3 s.h. MR. KALE

164. CHRISTIAN EDUCATION OF CHILDREN.—The organization and administration of the work of the church with children of the nursery, kindergarten, primary and junior age groups. 2 s.h. MR. KALE

165. CHRISTIAN EDUCATION OF YOUTH.—The organization and administration of the youth program in the local church. 2 s.h. MR. KALE

166. CHRISTIAN EDUCATION OF ADULTS.—A study of the needs of adults; the materials, methods, and principles of organization for the Christian Education of adults. 2 s.h. MR. KALE

167. THEOLOGY AND THE LAY MIND.—Formulation and communication of the Christian faith, for the mind of today. (For Middlers and Seniors.) 3 s.h. MR. RICHEY

169. THEORIES OF CHRISTIAN EDUCATION.—A critical investigation of current theories of Christian Education. 3 s.h. MR. RICHEY

SEE ALSO HISTORY OF RELIGION 126. MISSIONARY EDUCATION.

PASTORAL CARE

26. INTRODUCTION TO PASTORAL CARE.—A study of the background, needs and methods of pastoral work and personal counseling. 2 s.h. MR. DICKS

170. SEMINAR IN PASTORAL CARE.—For students preparing for full-time pastoral ministry, hospital chaplaincy, industrial chaplaincy, ministry to older people, or work with young people. Practicum. Prerequisite: P.C. 26 or consent of instructor. 2 s.h. class and 1 s.h. clinic. MR. DICKS

171. PASTORAL CARE PRACTICUM I.—A study of pastoral calls and interviews. Particularly for students serving churches or working in clinical situations. Prerequisite: P.C. 26 or consent of instructor. 2 s.h. class and 1 s.h. clinic. MR. DICKS

172. PASTORAL CARE PRACTICUM II.—Advanced pastoral care for students serving churches or working in clinical situations. Prerequisite: P.C. 26 or P.C. 171. 3 s.h. MR. DICKS

173. RELIGION AND HEALTH.—The study of the relation of body and mind and of the religious resources for health through counseling and worship. Prerequisite: P.C. 26 or consent of instructor. 2 s.h. MR. DICKS

174. PERSONAL COUNSELING.—A study of formal personal counseling for those going into the ministry, religious education, and work with college students. 2 s.h. [Open to a limited number of first-year students.] MR. DICKS

175. THE LITERATURE OF PASTORAL CARE.—Directed reading and seminar discussion of writings in the field of psychiatry, psychology, sociology, social work, and ministry, and other fields as they relate to pastoral care. Prerequisite: consent of instructor. 2 s.h. MR. DICKS

176. PASTORAL CARE AND SOCIAL WORK.—Lectures by various specialists and visits to social agencies to orient the minister in relation to other specialists working with individuals and to familiarize him with social service resources. 2 s.h. [Open to a limited number of first-year students.] MR. DICKS

177. ADVANCED SEMINAR IN PASTORAL CARE.—Continuation of 170, which, however, is not a prerequisite. Emphasis upon hospital ministry. Practicum. Prerequisite: P.C. 26 or consent of instructor. 2 s.h. class and 1 s.h. clinic. MR. DICKS AND OTHERS

PREACHING

29-30. SERMON CONSTRUCTION—THEORY AND PRACTICE.—An investigation of the theory of preaching (first semester). Detailed work in practice preaching and a clinical session each week on the application of theory (second semester). 4 s.h. MR. CLELAND, MR. CARLTON AND MR. GARDNER

181. PRACTICAL PROBLEMS IN PREACHING.—Analysis of selected sermons and discussion of problems facing the preacher in the pulpit. Prerequisite: Pr. 29 and 30. 2 s.h. MR. CLELAND AND MR. CARLTON

183. EXPOSITORY PREACHING—OLD TESTAMENT.—The exegesis and exposition of selected Old Testament passages for homiletical purposes. 2 s.h.

MR. CLELAND

184. EXPOSITORY PREACHING—THE PAULINE EPISTLES.—A study for homiletical purposes of the religious experience and theology of Saint Paul and its influence on ethical theory and practice. 3 s.h.

MR. CLELAND

185. EXPOSITORY PREACHING—NON-BIBLICAL.—An evaluation of drama, poetry and fiction for homiletical purposes. 3 s.h.

MR. CLELAND

186. EXPOSITORY PREACHING—THE JOHANNINE WRITINGS.—The exegesis and exposition of the Gospel and the Epistle of John for homiletical purposes. 2 s.h.

MR. CARLTON

SEE ALSO: CHURCH HISTORY 136. PRE-REFORMATION PREACHING.

PUBLIC WORSHIP

178. PUBLIC WORSHIP.—The theory and practice of the worship of the Church: an analysis of the rites and ceremonies in "The Book of Worship." 3 s.h.

MR. RUDIN

180. CHURCH MUSIC.—A study of hymnology, song leading, and problems of the modern church choir. (Offered in both semesters.) 3 s.h.

MR. BARNES

SPEECH

17. EFFECTIVE SPEAKING.—Fundamentals of preparation and delivery to develop effectiveness in private and public speech. Individual conferences. Offered in four sections. (Students found deficient in Speech and Preaching will, upon recommendation of the instructors concerned, take Speech 132 also.) 2 s.h.

MR. RUDIN

132. PUBLIC SPEAKING.—Composition and delivery, based upon individual needs. Selection and arrangement of materials, principles of persuasion, intensive practice in delivery. Individual conferences. 2 s.h.

MR. RUDIN

134. ORAL INTERPRETATION OF LITERATURE.—A course for advanced students designed to develop effectiveness in interpreting the Bible and other commonly used materials of public worship. Individual conferences and drill sections to be arranged. Prerequisite: Speech 17. 2 s.h.

MR. RUDIN

V. Senior Seminars

In the third year each B.D. candidate will take one Senior Seminar, yielding 2 s.h. credit. No student may enroll in more than one Senior Seminar without special permission of the Dean. Senior Seminars will not yield Graduate School credit, nor be open to special students.

Enrollment in each Senior Seminar shall be normally not more than twelve. No Senior Seminar need be conducted for an enrollment of less than 5 students. Each Senior Seminar will be in charge of a Chairman. Not less than two instructors will participate in each Seminar. General supervision of all Senior Seminars will be exercised by a standing committee of the Faculty.

The work done in each Senior Seminar should be equivalent to that done in a normal 2 s.h. course, with reading based upon a prepared reading list and a substantial paper or written project report.

FIRST SEMESTER

61. THE CHRISTIAN FAITH AND ITS PROCLAMATION.—2 s.h.
MR. RUDIN, MR. CUSHMAN, MR. CARLTON
63. THE ECUMENICAL MOVEMENT IN THE MODERN CHURCH.—2 s.h.
MR. SMITH, MR. LACY, MR. SCHAFER
65. PRACTICAL VALUES OF BIBLICAL RESEARCH.—2 s.h.
MR. CLARK, MR. STINESPRING
67. THE NEW TESTAMENT AS MATERIALS FOR TEACHING.—2 s.h.
MR. RICHEY, MR. PRICE

SECOND SEMESTER

62. WESTERN CHRISTIANITY AND NON-CHRISTIAN FAITHS.—2 s.h.
MR. PETRY, MR. FOSTER
64. THE OLD TESTAMENT AS MATERIALS FOR TEACHING.—2 s.h.
MR. KALE, MR. BROWNLEE, MR. PRICE
66. THE CHRISTIAN CHURCH AND SOCIAL CHANGE.—2 s.h.
MR. BEACH, MR. LACY
68. CHRISTIAN EXPERIENCE AND CONTEMPORARY LIFE.—2 s.h.
MR. WALTON, MR. MYERS, MR. FOSTER
70. PASTORAL CARE AND PREACHING.—2 s.h.
MR. DICKS, MR. RICHEY, MR. CARLTON

Cost, Residential Arrangement, and Student Aid



Fees and Cost

THE University tuition charge is \$225 per semester. Scholarships covering this amount are granted to all Divinity School students. Other charges are as follows:

Fees per semester:

General Fee	\$ 50.00
Approximate cost of meals per semester (estimated).....	200.00
Room per semester (double room).....	87.50
Total per semester.....	\$337.50

The "General Fee" is in lieu of all special charges, and includes the following fees: Matriculation, Medical, Library, Damage, Commencement, and Diploma. Divinity School students may secure admission to all regularly scheduled University athletic contests held on the University grounds during the entire academic year by payment of the athletic fee of \$10.00 per year plus any Federal taxes that may be imposed. This fee is payable in the fall semester.

LATE REGISTRATION

Students matriculating in either semester at a date later than that prescribed in the catalogue shall pay to the Treasurer of the University a penalty of \$5.00.

Living Accommodations

Women graduate students occupy Epworth Hall, which provides facilities for fifty-seven women, on the Woman's College Campus. Dining hall facilities are not available in Epworth Hall. Meals may be had in the cafeterias of the Unions. The rental charge for a single room is \$250.00 for the academic year, or \$125.00 each semester. The rental charge for a double room is \$400.00 for the academic year, or \$100.00 for each occupant each semester. There are no lodging facilities on campus for married couples. Such students should plan to arrange for rooms or apartments in private homes in the city. The

Housing Bureau maintains a file of rooms and apartments listed with it for rental. Students may use this file as an aid to locating suitable lodging accommodations.

The Men's Graduate Center is available to men of the graduate and professional schools. It has facilities for four hundred men, complete with lounges, study rooms, recreational rooms, post office and dining hall. The rooms are equipped for two persons and the rental charge for a double room is \$350.00 for the academic year, or \$87.50 for each occupant each semester.

Rooms are rented for a period of not less than one semester, or in the case of a medical student, one quarter, and without special arrangements, the rate is \$1.00 per day with a minimum charge of \$25.00.

Room reservations are made through the Housing Bureau only after official acceptance for admission to the University. A \$25.00 room deposit is required of each applicant before a room reservation is made. The initial room deposit is effective during the student's residence in the University if attendance is continuous in regular academic years. This deposit will be refunded under the following conditions:

- a. Within thirty days after the student has been graduated.
- b. Upon withdrawal from the University, provided written notice is received in the Housing Bureau by August 1, for cancellation of a reservation for the fall semester; and not later than January 15, for cancellation of a reservation for the spring semester.
- c. When the reasons requiring withdrawal are beyond the student's control.

No refund is made until the occupant has checked out of his room through the Housing Bureau and has settled all of his account with the Treasurer.

A resident student, in order to retain his room for the succeeding academic year, must make application at the office of the Housing Bureau for confirmation of the reservation in accordance with the plan that is published during the school year.

Any exchange of rooms must be arranged at the Housing Bureau. Persons exchanging rooms without the approval of the Housing Bureau will be subject to charges for both rooms.

The authorities of the University do not assume responsibility for the persons selected as roommates. Each student is urged to select his roommate when the room is reserved.

Beds and mattresses (39"x74"), tables, chairs, dressers, mirrors, and window shades are furnished by the University. The student supplies linens, blankets and pillows. Rugs, totaling not more than 54-square-feet, study lamps and curtains are permissible, and if desired, are furnished by the room occupants.

Regulations governing the occupancy of rooms will be supplied directly from the Housing Bureau when room reservations are made. Occupants are expected to abide by these regulations.

DINING HALLS

Food service on both the Woman's College Campus and the West Campus is cafeteria style. The cost of meals approximates \$1.75 to \$2.25 per day depending upon the need and taste of the individual. The dining facilities on the West Campus include three cafeterias with multiple choice menus and, in addition, the Oak Room, where full meals and *a la carte* items are served. The Men's Graduate Center has a cafeteria open at meal hours, and a coffee lounge which is open until 11:00 P.M. The prices are the same as in the West Campus Union.

Student Aid

Duke University remits its regular tuition charges to all students enrolled in the Divinity School. In recognition of this, students are expected to render occasional services such as the teaching of Church School classes and responding to calls for particular services. Financial aid, over and above this, is available only in the form of grants-in-aid and work scholarships. These funds come from sources described on pages 39 through 42 of this catalogue. Those appointed to such work agree to give ten weeks' service during the summer months to a church to which they are assigned. In return they receive their board and room for the period of their summer service and amounts varying up to \$600. By special arrangement a student may be assigned to a church for five weeks' work with one-half the stated remuneration. This plan provides an opportunity for earning a large part of the year's expenses, while at the same time assuring the student valuable experience in religious leadership.

In most cases students will be expected to be able to finance themselves for the first semester of work in the Divinity School; those who show that they can carry their school work satisfactorily are then eligible for various forms of financial assistance.

Students who must have additional income over and above their summer's earnings may secure part-time employment during the academic year. They are strongly urged, however, to make their arrangements so that they will not have duties which will prevent their taking the fullest advantage of the educational and cultural opportunities of the Divinity School.

FIELD WORK SUPERVISION

The Department of Field Work is maintained to help students receiving financial aid to secure work opportunities where they may render service for such aid. Their work will be supervised so that their experiences may be part of their ministerial training. Students are also helped to secure work opportunities for the experience to be gained. All students working under the department have their board, room, laundry, and travel expenses provided by the charge served. Certain courses are required of all students engaged in field work and are designed to prepare them for the work in which they engage. All students assigned to field work must maintain satisfactory grades and attitudes.

All students working under the Duke Endowment or similar aid are required to attend the Christian Convocation unless excused in writing by the Dean on recommendation of the Director of Field Work.

LOAN FUNDS

Divinity School students who have satisfactorily completed one semester's work are eligible to apply for loans from the University Loan Funds. Such applications should be filed on the approved forms in the Office of the Secretary of Duke University within the first week of each semester.

ENDOWED SCHOLARSHIP FUNDS

Certain special scholarship funds have been established, the income of which is available for students wishing to secure training in preparation for the Christian ministry.

These scholarships are all awarded on the basis of service performed in a local church, thus providing experience as well as financial aid for the student.

N. EDWARD EDGERTON FUND

In 1939 Mr. N. Edward Edgerton of Raleigh, North Carolina, an alumnus of Duke University of the Class of 1921, a member of the Board of Trustees of the University and a member of the Committee on the Divinity School, established the N. Edward Edgerton Fund. The award is limited to students who are candidates for the B.D. degree.

P. HUBER HANES SCHOLARSHIP

Mr. P. Huber Hanes of Winston-Salem, North Carolina, an alumnus of Duke University of the Class of 1900 and a member of the Board of Trustees, has established an annual scholarship yielding the sum of \$400.00.

ELBERT RUSSELL SCHOLARSHIP

In 1942 the Alumni Association of the Divinity School established a scholarship fund in honor of Elbert Russell, Dean Emeritus of the Divinity School and for a number of years Professor of Biblical Theology.

W. R. ODELL SCHOLARSHIP

In 1946 the Forest Hills Methodist Church, Concord, North Carolina, established a scholarship fund in memory of W. R. Odell, for many years a member of the Board of Trustees of the University.

MYERS PARK SCHOLARSHIP FUND

The Myers Park Scholarship Fund was established in 1948 by contributions of the members of the congregation of the Myers Park Methodist Church, Charlotte, N. C.; the income to be used for the benefit of the Divinity School.

HERSEY E. SPENCE SCHOLARSHIP

In 1947 the Steele Street Methodist Church of Sanford, North Carolina, established a scholarship fund in honor of Professor Hersey E. Spence, a former pastor of the congregation, the income to be used for scholarship aid to deserving students of the Divinity School.

GEORGE M. IVEY SCHOLARSHIP FUND

This fund was established December 8, 1948, by gift of George M. Ivey, of Charlotte, North Carolina, an alumnus of Duke University of the Class of 1920, the income to be used for scholarship aid for deserving students in the Divinity School.

LAURINBURG CHRISTIAN EDUCATION FUND

This fund was established December 11, 1948, by gift through the Methodist College Advance Fund, the income to be used for scholarship aid for worthy students of the Divinity School.

JESSE M. ORMOND SCHOLARSHIP FUND

In 1948 the North Carolina Conference established a fund in honor of Professor Jesse M. Ormond, who for many years was Director of Field Work in the Duke Divinity School and Professor of Practical Theology.

THOMAS JEFFERSON FINCH SCHOLARSHIP

In 1955 Mr. George Davis Finch, '24, and Mr. Brown Faucette Finch, '54, established an annual scholarship in the amount of six hundred and fifty dollars a year in memory of Mr. Thomas Jefferson Finch, Trinity College Class of 1884, who was the father and grandfather of the donors.

R. ERNEST ATKINSON LEGACY

In 1952, under the will of the Reverend R. Ernest Atkinson, of Richmond, Virginia, a member of the Trinity College Class of 1917, a sum of money was given to the Divinity School, the income to be used for the benefit of the School.

DUKE ENDOWMENT GRANTS-IN-AID

The Duke Endowment provides aid to North Carolina rural Methodist churches for operation and maintenance. There are available from this source grants-in-aid to provide additional pastoral service. At the present rate of income approximately seventy students can be employed as assistant pastors in this service during the summer. Terms of these grants are given on page 38 of this catalogue.

ANNUAL SCHOLARSHIPS

In addition to the endowed scholarship and funds provided by the Duke Endowment, the Divinity School receives annual scholarship funds from the following organizations and individuals: The Virginia Conference Duke Alumni; Myers Park Methodist Church, Charlotte, N. C.; the Dilworth Methodist Church, Charlotte, N. C.; the South Carolina Conference of the Methodist Church; Centenary Methodist Church, Winston-Salem, N. C.

These scholarships are awarded on the same basis as the endowed scholarships.

THE METHODIST CHURCH

The Methodist Church makes a substantial contribution to the Divinity School by designating a certain percentage of its World Service offerings to the School.

The North Carolina and the Western North Carolina Conferences, direct a certain percentage of the College Sustaining Fund to the Divinity School.

THE METHODIST COLLEGE ADVANCE

The Divinity School was a participant in the North Carolina Methodist College Advance with askings of \$200,000.00 for scholarship aid and extension of the School's service to ministers. Many local churches and individuals have shared in the raising of this significant sum. Specific contributions are the Henry Harrison Jordan Loan Library, the James A. Gray Fund, the J. M. Ormond Fund, the Laurinburg Christian Education Fund, and the Hersey E. Spence Fund.

THE JAMES A. GRAY FUND

In 1947 Mr. James A. Gray of Winston-Salem, North Carolina, presented the fund which bears his name to the Divinity School for

use in expanding and maintaining its educational services in behalf of North Carolina churches and pastors. From this fund three scholarships are awarded, two in city church work, and one in rural church work. The Divinity School Seminars and a number of scholarships in the School for Approved Supply Pastors are also supported by income from this gift as well as the James A. Gray Lectures.

FRANK S. HICKMAN PREACHING PRIZE

The Frank S. Hickman prize in preaching, amounting to \$90.00 in cash for the best sermons preached in an annual contest, was established in 1950.

The Summer Session of The Divinity School

Summer, 1955

Class enrollments will be controlled as occasion may arise so as to secure a fairly even distribution among the courses offered in each term.

First Term: June 14-July 23

S108 (DS). COMPARATIVE RELIGION I.—The ideas of God, sin, and salvation in the religions of the world. 3 s.h. 11:00-12:20. 3.205. MR. FOSTER

S170 (DS). SEMINAR IN PASTORAL CARE.—For students preparing for full-time pastoral ministry, hospital chaplaincy, industrial chaplaincy, ministry to older people, or work with young people. 3 s.h. 9:20-10:40. 3.205. MR. DICKS

S180 (DS). CHURCH MUSIC.—A study of hymnology, song leading, and problems of the modern church choir. 3 s.h. 1:40-3:00. Chapel Basement. MR. BARNES

S199 (DS). THE AMERICAN SOCIAL GOSPEL.—A study of Protestant social thought and action in America since 1865. 3 s.h. 7:40-9:00. 3.205. MR. SMITH

Second Term: July 26-August 31

S105 (DS). THE LIFE OF PAUL.—A study of Paul's life on the basis of Acts and the letters of Paul, emphasizing the permanent values in Paul's work and his contribution to the world. 3 s.h. 11:00-12:20. 3.205. MR. MYERS

S125 (DS). PSYCHOLOGY AND THEOLOGY.—An inquiry into the relations of psychological and theological interpretations of man. 3 s.h. 1:40-3:00. 3.210. MR. RICHEY

S194 (DS). INTRODUCTION TO CHRISTIAN SOCIAL ETHICS.—Christian norms for social policy and their application to the domestic, economic, political, and racial patterns of modern culture. 3 s.h. 7:40-9:00. 3.205. MR. LACY

S310 (DS). OLD TESTAMENT PROPHECY.—The prophetic movement in Israel with special emphasis on the prophets of the eighth century B.C. 3 s.h. 9:20-10:40. 3.205. MR. STINESPRING

Enrollment 1954-55



Fall and Spring Semesters

Aitken, Louis Allon (B.A., Buena Vista College), Aurelia, Iowa
Aitken, Paul Wesley (A.B., Morris Harvey College), South Charleston, W. Va.
Armstrong, James M., Jr. (A.B., Wofford College), Belmont, N. C.
Auman, George E. (A.B., High Point College), Seagrove, N. C.
Avant, William Earl (A.B., Duke University), Georgetown, S. C.

Bailey, William Ray (B.A., Emory and Henry College), Tazewell, Va.
Bannerman, Glenn (B.S., Richmond Professional Institute), Hopewell, Va.
Barden, Lawrence Edgerton (A.B., Duke University), Boone, N. C.
Barnes, John Hyce (A.B., Duke University), Lumberton, N. C.
Barrett, Claude L. (A.B., High Point College), Kinston, N. C.
Bayliss, Welden C. (B.S., University of North Carolina), Rye, N. Y.
Beaty, Fred Donald (A.B., Duke University), Belmont, N. C.
Bedsworth, Ellis J. (B.S., East Carolina College), Marshallberg, N. C.
Beers, Birt Adriance (B.A., Ohio Wesleyan University), Lansing, Mich.
Berry, William Preston (B.A., Randolph-Macon College), Staunton, Va.
Bideaux, Rene Orville (B.S., North Carolina State College), Meadville, Pa.
Bigham, William Ormand (A.B., High Point College), Greensboro, N. C.
Bird, John Stephen (B.S., Concord College), Athens, W. Va.
Bishop, William Warren (A.B., Duke University), Durham, N. C.
Black, David Coley (A.B., Duke University), Durham, N. C.
Blackburn, Charles Edward (B.A., Athens College), Sante Fe, Tenn.
Blue, John Robert (B.S., University of Missouri), Poplar Bluff, Mo.
Bradley, Erman Franklin (B.S., Wofford College), Gastonia, N. C.
Bridger, Donald Gene (A.B., High Point College), Thomasville, N. C.
Bridges, Lawrence James (B.A., Wake Forest College), Shallotte, N. C.
Brodie, Robert Stewart (B.A., University of Florida), Inez, N. C.
Brown, Billy Bowman (A.B., Wofford College), Patrick, S. C.
Browning, Paul C. (A.B., Morris Harvey College), Charleston, W. Va.
Burnett, Marshall Emmett, Jr. (B.S., Millsaps College), Jackson, Miss.
Butler, William Warren (A.B., Duke University), Atlanta, Ga.
Byrd, Albert DeWitt, Jr. (A.B., High Point College), Stedman, N. C.
Byrd, Julian LeGrande, Jr. (A.B., University of Florida), Seville, Fla.

Carroll, Jackson Walker, Jr. (A.B., Wofford College), Chester, S. C.
Caudill, Charles Clayton (A. B., High Point College), Clayton, N. C.
Clapp, Rosser Lee (B.A., Elon College), Seagrove, N. C.
Clarke, Wilfong W., Jr. (A.B., Wofford College), Atlantic, N. C.
Clayton, Thomas Grinnalds (A.B., Randolph-Macon College), Parksley, Va.
Coffey, Jack Franklin (B.A., Wake Forest College), Granite Falls, N. C.
Cogdell, James Black (B.A., Huntingdon College), Montgomery, Ala.
Coleman, Howard Luther (A.B., High Point College), Concord, N. C.
Cooke, Reginald James (A.B., High Point College), Maiden, N. C.
Corr, Loughton Lee (B.A., Randolph-Macon College), Richmond, Va.
Coward, David Morrill (A.B., Emory University), Elberton, Ga.
Crawford, Van Talmadge (A.B., University of Miami), Murfreesboro, N. C.
Creech, Harlan Longstreet, III (A.B., Lenoir-Rhyne College), Moravian Falls, N. C.
Crim, Frank Sprint (B.A., Randolph-Macon College), Winchester, Va.
Croft, Martha Gertrude (B.A., Radford College), Alexandria, Va.
Crow, Earl Pickett, Jr. (A.B., Duke University), Atlanta, Ga.
Crowder, Richard Joseph (A.B., Duke University), High Point, N. C.
Crum, John Hammond (A.B., Emory University), Raleigh, N. C.
Currin, Beverly Madison, Jr. (A.B., Elon College), Burlington, N. C.

Dulin, Max Wade (A.B., High Point College), Newton, N. C.
Dyar, William Heller (A.B., High Point College), Raleigh, N. C.
Dye, Donzil Weldon (A.B., West Virginia Wesleyan College), Vienna, W. Va.

Eskridge, James Brink (B.S., Millsaps College), Sherman, Miss.
Estus, Charles Wilson (A.B., Drury College), Durham, N. C.

Fagan, Donald Earl (B.A., Southern Methodist University), Houston, Texas
Fidler, George Arthur (A.B., Catawba College), Burlington, N. C.
Fisher, Allyn Johnston (A.B., Wesleyan University), Portland, Conn.
Futch, Ladell, J. (B.S., Louisiana Polytechnic Institute), Farmville, La.

- Garris, Horace Stanford (A.B., Atlantic Christian College), Apex, N. C.
 Glass, Joseph Conrad, Jr. (B.S., North Carolina State College), Raleigh, N. C.
 Goodwin, James William (A. B., Birmingham-Southern College), Chalkville, Ala.
 Goodwin, Ernest Ray (B.S., Birmingham-Southern College), Chalkville, Ala.
 Gore, Albert Nottly, Jr. (B.A., Millsaps College), Mathiston, Miss.
 Greenwood, Lawrence Henry, Jr. (A.B., Morris Harvey College), Charleston, W. Va.
 Grill, Charles Franklin, Jr. (A.B., Asbury College), Hillsboro, N. C.
 Grissett, Finley McCorvey (B.S., Alabama Polytechnic Institute), Atmore, Ala.
 Grose, James Chalmus, Jr. (A.B., High Point College), Charlotte, N. C.
 Groseclose, Henry Monroe (B.S., East Tennessee State College), Appalachia, Va.
- Hackney, Edwin Atwater (A.B., Duke University), Charlotte, N. C.
 Haire, Billie Allen (A.B., Wofford College), Spindale, N. C.
 Haire, Earle Ross (A.B., Emory University, West Jefferson, N. C.
 Hall, William Pollard, Jr. (B.A., University of Virginia), Newport News, Va.
 Hamilton, James Winfred (A.B., High Point College), Troy, N. C.
 Hanson, Corleiss Victor (B.S., University of Alabama), Panama City, Ala.
 Harper, Charlie Fred (B.A., Athens College), Cumberland Furnace, Tenn.
 Hawkins, Johnnie Everett (A.B., High Point College), Charlotte, N. C.
 Hayes, John Samuel (B.A., Randolph-Macon College), Paul's Cross Roads, Va.
 Head, Sidney Alexander (B.A., Millsaps College), Columbia, Miss.
 Heath, Edward Madison (B.S., Catawba College), Kernersville, N. C.
 Heath, Henry Lewis, Jr. (B.S., University of Alabama), Birmingham, Ala.
 Henley, Earle Erwin, Jr. (B.A., Randolph-Macon College), Waynesboro, Va.
 Henley, James Walton (B.A., Emory University), Nashville, Tenn.
 Heston, Warner Roberts, Jr. (B.S., Drexel Institute of Technology), Drexel Hill, Pa.
 Hoagland, Richard Havis (B.S., Washington and Jefferson College), Wilmington, N. C.
 Hodges, Louis Wendell (B.A., Millsaps College), Eupora, Miss.
 Hoffmann, Theodore Schott (A.B., Duke University), Dunbar, W. Va.
 Houk, J. Edwin (A.B., Duke University), Sanford, Fla.
 Houston, Paul Doran (A.B., Marshall College), Huntington, W. Va.
 Howard, Michael Ross (A.B., Duke University), Concord, N. C.
 Hutcheson, Ann (B.S., Georgia State College for Women; M.R.E., Emory University), Sandersville, Ga.
- Irwin, Robert Lynn (B.A., University of Tennessee), Knoxville, Tenn.
- James, Robert Earl (A.B., Wofford College), Florence, S. C.
 Jeffries, William Mac (B.S., University of Virginia), Washington, D. C.
 Jernigan, J. O. (A.B., Atlantic Christian College), Spring Hope, N. C.
 Johnson, Charles Earl, Jr. (B.A., University of North Carolina), Raleigh, N. C.
 Johnson, Harvey Bynum (A.B., High Point College), Fayetteville, N. C.
 Johnson, Kenneth Marshall (B.S., Davidson College), Charlotte, N. C.
 Jones, Thomas Charles, Jr. (A.B., Wofford College), Sumter, S. C.
- Kamps, John Herbert (B.A., Michigan State College), Zeeland, Mich.
 Kayler, Ralph Earl (A.B., Duke University), Gastonia, N. C.
 Keating, Harold Julian (B.S., University of Tampa), Tampa, Fla.
 Kellum, Elmer Owen, Jr. (B.S., Davidson College), Atlanta, Ga.
 Key, Joel Thomas (A.B., Asbury College), Greensboro, N. C.
 King, John Thomas (A.B., Duke University), Gastonia, N. C.
 Knotts, Albert Ray (B.S., Princeton University), Nottaway, Va.
- Lambert, Wilson Sharpe (B.A., Millsaps College), Pelham, N. C.
 Lampton, Josephine (B.A., Millsaps College), Tylertown, Miss.
 Lazar, Julian Hampton (A.B., Wofford College), Florence, S. C.
 Lee, Robert Edward (A.B., Birmingham-Southern College), Birmingham, Ala.
 Lee, Thomas Smith, Jr. (A.B., Alabama Polytechnic Institute), Russellville, Ala.
 Little, Gene Houston (A.B., Davidson College), Charlotte, N. C.
 Lore, Auburn William (A.B., Morris-Harvey College), Chesapeake, W. Va.
 Lowdermilk, Max Kearns (A.B., Duke University), Asheville, N. C.
 Luger, Lawrence Edward (B.A., Lynchburg College), Roanoke, Va.
 Lyndon, George Earl, Jr. (A.B., High Point College), Thomasville, N. C.
- McWhorter, John Lloyd (A.B., Duke University), Waxhaw, N. C.
 Madren, Thomas Wheeler (A.B., Elon College), Albemarle, N. C.
 Mah, Kyung Il (B.D. Methodist Theological Seminary, Korea), Seoul, Korea
 Mansfield, Jack Percia (A.B., Duke University), Cumberland, Md.
 Martin, James Granville (B.A., Southern Methodist University), Fort Worth, Texas
 Martin, Murray Anthony (A.B., Florida Southern College), Bradenton, Fla.
 Martin, Richard Kelly (B.A., Lynchburg College), Lynchburg, Va.
 Martinson, Jacob Christian, Jr. (B.A., Huntingdon College), Montgomery, Ala.
 Mason, Randall Chaplain (A.B., Duke University), Paterson, N. J.
 Means, Jerry Akin (B.A., Centenary College), Ida, La.
 Medlin, Boyce Conway (B.A., Wake Forest College), Durham, N. C.
 Moore, Ted Lewis (A.B., Duke University), Gastonia, N. C.
 Morton, Theodore Roosevelt, Jr. (A.B., Wofford College), Florence, S. C.
 Mullikin, Melvin Eugene (A.B., Furman University), Gastonia, N. C.
 Mullins, H. Stanley (A.B., Birmingham-Southern College), Chatom, Ala.
 Myers, Joseph Edward (B.S., Florida Southern College), St. Petersburg, Fla.
 Myrick, Cecil Kenneth (B.A., Randolph-Macon College), East Spencer, N. C.

Nates, James Herbert, Jr. (A.B., University of South Carolina), Columbia, S. C.
 Needham, Edwin Garber (A.B., High Point College), Statesville, N. C.
 Nelson, Earl Volney (A.B., Baker University), Fort Dodge, Iowa
 Nesbitt, Charles Burns (A.B., Wofford College), Spartanburg, S. C.
 Northrop, Richard Armstrong (A.B., Duke University), Hermon, N. Y.

Parker, David Bryce (A.B., High Point College), Lexington, N. C.
 Parsons, Weldon Thomas, Jr. (A.B., The Citadel), Charleston, S. C.
 Pearson, Willie Lee, Jr. (B.A., Wake Forest College), Asheville, N. C.
 Peden, Harold Glenn (B.A., University of Arkansas), Mena, Ark.
 Pelt, Michael Riley (B.A., Troy State Teachers College), Marianna, Fla.
 Penberthy, Robert John (A.B., Duke University), Wilmette, Ill.
 Pennigar, Charles F. (A.B., Catawba College), Franklinville, N. C.
 Petty, John Albert (A.B., Duke University), Garland, N. C.
 Pfister, John William (A.B., Baker University), Kansas City, Mo.
 Pollock, Henry Morrison (A.B., Asbury College), Kernersville, N. C.
 Pope, Thomas Arnold (A.B., Duke University), Enfield, N. C.
 Porter, George Dewey, Jr. (B. S., Marshall College), Huntington, W. Va.

Quigley, Horace Gilbert (A.B., Atlantic Christian College), Rocky Mount, N. C.

Ralls, Robert Johnson (A.B., Guilford College), Greensboro, N. C.
 Ranson, Leonard Buckland, Jr. (A.B., Washington and Lee University), Baltimore, Md.
 Rath, Lisle Frederick (A. B., Duke University), Fulton, N. Y.
 Reed, John Edward (B.A., University of Arkansas), Mena, Ark.
 Rice, Grady Julius (A.B., Elon College), Sanford, N. C.
 Richardson, Donald Lee (B.M., John B. Stetson University), Hastings, Fla.
 Rickards, James Perry (A.B., East Carolina College), Washington, N. C.
 Riley, Jasper Otis (B.A., Lynchburg College), Lynchburg, Va.
 Robertson, Richard Norris (A.B., Birmingham-Southern College), Talladega, Ala.
 Robinson, Mary Rowland (A.B., Duke University), Ashtabula, Ohio
 Roettger, Charles Donald (A.B., Union College), Fort Thomas, Ky.
 Rogers, Edwin William (B.S., University of South Carolina) (M.R.E., Emory University)
 Sumter, S. C.
 Rollins, Donald Edward (A.B., High Point College), Lexington, N. C.
 Russell, Robert Glenn, Jr. (A.B., High Point College), Greensboro, N. C.

Sain, Daniel Dennis (A.B., Lenoir-Rhyne College), Belwood, N. C.
 Saylor, William Kirk (A.B., West Virginia Wesleyan College), Pittsburgh, Pa.
 Schuler, Thomas Wilburn, Jr. (A.B., Morris Harvey College), Charleston, W. Va.
 Scroggs, Robin Jerome (B.A., B.M., University of North Carolina), Raleigh, N. C.
 Sharp, Raymond J. (A.B., Waynesburg College), Mays Landing, N. J.
 Shelton, Gary James (B.A., Lynchburg College), Amherst, Va.
 Sheard, Lewis Ramey (A.B., Wofford College), Abbeville, S. C.
 Sherman, Robert Edgar (B.A., Otterbein College), Cleveland, Ohio
 Sherman, William Welby, Jr. (A.B., Dickinson College), Baltimore, Md.
 Shore, Ella Eugenia (A.B., College of William and Mary), Arlington, Va.
 Shuler, Frank Eugene, Jr. (B.A., Otterbein College), Cincinnati, Ohio
 Simmons, Lewis Bill (A.B., Elon College), Albemarle, N. C.
 Smith, Dwight Moody, Jr. (A.B., Davidson College), Spartanburg, S. C.
 Smith, Harmon Lee, Jr. (B.A., Millsaps College), Lexington, Miss.
 Smith, Jack Courtney (A.B., Catawba College), Misenheimer, N. C.
 Smith, Walter Christian, Jr. (A.B., American University), Washington, D. C.
 Sommer, Gunter Friedrich (B.D., Methodist Seminary, Frankfurt, Germany), Echterdingen, Germany
 Speight, James Braxton (A.B., Asbury College), Sunbury, N. C.
 Spillman, John Perry, Jr. (A.B., Duke University), Ansonville, N. C.
 Stamey, Ben Franklin (A.B., Duke University), Lawndale, N. C.
 Stark, Rufus Haywood (A.B., Duke University), Greenville, N. C.
 Starnes, William Brantley (A.B., Duke University), Burlington, N. C.
 Stockton, Thomas Barber (A.B., Davidson College), Winston-Salem, N. C.
 Sutton, John Hardy, Jr. (A.B., Duke University), La Grange, N. C.

Thomas, William Alan (A.B., Duke University), Mathews, Va.
 Thompson, Emerson McLean, Jr. (A.B., Duke University), Burgaw, N. C.
 Thompson, George William (A.B., High Point College), Kernersville, N. C.
 Thompson, Richard David (B.A., LL.B., University of Maryland), Lutherville, Md.
 Tisdale, Walter Eugene (A.B., High Point College), Saxapahaw, N. C.
 Turman, Harley Emmett, Jr. (A.B., Emory and Henry College), Radford, Va.
 Tyson, Aaron Grandison (A.B., Guilford College), Stem, N. C.
 Tyson, George Hart (A.B., Duke University), Rockingham, N. C.
 Tyson, Vernon Cephus (A.B., Guilford College), Stem, N. C.

Van Reenen, Albert Cecil, Jr. (A.B., West Virginia University), Bluefield, W. Va.
 Vestal, Max Brown (A.B., Elon College), Asheboro, N. C.
 *Vogel, Kurt (Translator's Degree, University of Graz), Graz, Austria
 Volskis, Wilhelm Siegfried (A.B., Randolph-Macon College), Richmond, Va.

Waits, William Kenyon (B.A., Huntingdon College), Montgomery, Ala.
 Wallace, Robert (A.B., Berea College), Somerset, Ky.
 Walter, William N. (B.A., Lycoming College), Union Springs, N. Y.

* Deceased.

Warren, William Franklin, Jr. (B.S., Davidson College), Durham, N. C.
 Weeks, Thomas Wallace (B.A., Duke University), Enfield, N. C.
 Wegwart, Wayne Gordon (B.S., E.E., Tri-State College), Huntington, W. Va.
 Welch, Donald James (B.A., Union College), Ashland, Ky.
 Wheeler, Ruth Lane (B.A., Union College), Canmer, Ky.
 White, Christian (B.A., Pembroke State College), Pembroke, N. C.
 White, Thomas Lynnwood (B.A., Randolph-Macon College), Richmond, Va.
 Whorton, Tennyson, Lucious (B.A., Southern Methodist University), Kerens, Texas
 Wier, Frank E. (B.A., University of Tennessee), Knoxville, Tenn.
 Wier, Kenneth Rule (B.A., University of Tennessee), Knoxville, Tenn.
 Wilbur, Ralph Edgar (A.B., Lambuth College), Oakham, Mass.
 Willis, Mason McLaurin (A.B., Wofford College), Fountain Inn, S. C.
 Wilson, Barrett Dallas (B.S., North Carolina State College), Raleigh, N. C.
 Wilson, Harold Jackson (A.B., Wofford College), Falls Church, Va.
 Witherspoon, Martha Carolin (A.B., Lenoir-Rhyne College), Hickory, N. C.
 Witter, Hamilton Clarke (A.B., Allegheny College; M.B.A., Stanford University) Chapel Hill, N. C.
 Wollscheiber, Herta (University of Graz), Graz, Austria
 Womack, Sam Jones, Jr. (A. B., Florida Southern College), Lakeland, Fla.
 Wragg, Paul H., Jr. (B.S., Florida State University), Riverview, Fla.
 Yarbrough, Charles Curtis (A.B., Duke University), Concord, N. C.
 Young, Charles Milton (A.B., Berea College), Bald Creek, N. C.
 Young, William Franklin (A.B., Catawba College), Linwood, N. C.

Students Enrolled in the Department of Religion of The Graduate School of Arts and Sciences 1954-55

Benjamin, Walter W. (B.A., Hamline University; B.D., Garrett Biblical Institute), Pipestone, Minn.
 Brown, Jesse H. (A.B., Elizabeth College; B.D., Crozer Theological Seminary), Brownstown, Pa.
 Carlton, John W. (B.A., Baylor University; B.D., Duke Divinity School), Corpus Christi, Texas
 Chalker, William H. (B.A., Maryville College; B.D., McCormick Theological Seminary), Birmingham, Ala.
 Chamberlain, John Victor (A.B., Florida Southern College; M.A., Duke University), Colwyn, Pa.
 Clevenger, Eugene (B.A., George Pepperdine College; B.D., Southern Baptist Theological Seminary), Chattanooga, Tenn.
 Cline, Pervy A. (B.A., Wake Forest College; B.D., Southern Baptist Theological Seminary), Gastonia, N. C.
 Daniels, Boyd Lee (A.B., College of Wooster; B.D., McCormick Theological Seminary), Sandusky, Ohio.
 DeSanto, Pasquale (B.S., Temple University; B.D., Louisville Presbyterian Theological Seminary), Newton Square, Pa.
 Edwards, George Riley (B.A., Southwestern at Memphis; B.D., Louisville Presbyterian Theological Seminary), Pittsboro, N. C.
 Gardner, Robert G. (A.B., Mercer University; B.D., Duke Divinity School), McDonough, Ga.
 Harper, Miles Douglas, Jr. (B.A., Mississippi Southern College; B.D., Columbia Theological Seminary), Hattiesburg, Miss.
 Henry, Stuart Clark (B.A., Davidson College; B.D., Louisville Presbyterian Theological Seminary), Concord, N. C.
 Hix, Douglas W. (A.B., Davidson College; B.D., Columbia Theological Seminary), La Grange, Ga.
 Hoyt, William R., III (A.B., Davidson College; B.D., Columbia Theological Seminary), Pulaski, Va.
 Hudgins, Walter E. (A.B., Duke University; B.D., Duke Divinity School), Danville, Va.
 Jones, Barney L. (A.B., Duke University; B.D., Yale Divinity School), Durham, N. C.
 Langford, Thomas A. (A.B., Davidson; B.D., Duke Divinity School), Charlotte, N. C.
 McAllister, James L., Jr. (B.A., University of North Carolina; B.D., Yale Divinity School), Roper, N. C.
 Mallard, William, Jr. (A.B., Randolph-Macon College; B.D., Duke Divinity School), Durham, N. C.
 Mueller, David L. (B.A., Baylor University; B.D., Southern Baptist Theological Seminary), Louisville, Ky.
 Ping, Charles J. (A.B., Southwestern at Memphis; B.D., Louisville Presbyterian Theological Seminary), Brooklyn, New York.

Polley, Max E. (B.A., Albion College; B.D., Duke Divinity School), Niles, Mich.
 Reckard, Charles H. (B.S., Georgia Institute of Technology; B.D., Louisville Presbyterian Theological Seminary), Hillsboro, N. C.
 Score, John N. R. (A.B., Southwestern University; B.D., Garrett Biblical Institute), Dallas, Texas.
 Snowden, Armon Carl (A.B., Elizabethtown College; B.D., Crozer Theological Seminary), Bethlehem, Pa.
 Spann, Edwin (B.A., George Peabody College; B.D., Perkins School of Theology, S.M.U.), Nashville, Tenn.
 Stewart, John William (A.B., University of Georgia; B.D., Brite College of the Bible, T.C.U.), Carrollton, Texas.
 Taylor, Kenneth M. (B.A., Florida Southern College; B.D., Duke Divinity School), Miami, Fla.
 Via, Dan Otto, Jr. (B.S., Davidson College; B.D., Southern Baptist Theological Seminary), Charlottesville, Va.
 Webb, O. Kenneth, Jr. (A.B., The Citadel; B.D., Southern Baptist Theological Seminary), Chapel Hill, N. C.

Summer Session 1954

(WITHOUT DUPLICATION)

Allen, Doris Irene (A.B., Meredith College), Smithfield, N. C.
 Dalton, Clarence T. (A.B., A.M., West Virginia University), Worth, W. Va.
 Erwin, Joe Lane (A.B., High Point College), Stokesdale, N. C.
 Gibbs, Philip Hamilton (A.B., Wofford College), Cedar Falls, N. C.
 Hiatt, Emmett Ernest, Jr. (A.B., High Point College), High Point, N. C.
 Lawson, Marvest A. (B.A., Henderson State Teachers College), Calico Rock, Ark.
 Layfield, Pearce H. (D.D.S., Emory University School of Dentistry), La Grange, Ga.
 McIntyre, Lucy Louise (B.A., Macalester College), Minneapolis, Minn.
 Walton, Charles Reginald (B.A., Roanoke College), Roanoke, Va.
 Wilkinson, Raymond Lee (A.B., Wofford College), Belmont, N. C.

Enrollment Summary

Divinity School students, 228; Graduate School students, 31; Summer Session students (without duplication), 10. Total: 269.

INSTITUTIONS REPRESENTED

Duke University, 44; High Point College, 23; Wofford College, 16; Millsaps College, 9; Randolph-Macon College, 9; Davidson College, 6; Elon College, 6.

The following 5 each: Birmingham-Southern College, Catawba College, Louisville Presbyterian Theological Seminary, Morris Harvey College, Emory University.

The following 4 each: Asbury College, Lynchburg College, Southern Baptist Theological Seminary, Wake Forest College.

The following 3 each: Atlantic Christian College, Columbia Theological Seminary, Florida Southern College, Guilford College, Huntingdon College, Lenoir-Rhyne College, North Carolina State College of Agriculture and Engineering, Southern Methodist University, Union College (Kentucky), University of North Carolina, University of Tennessee.

The following 2 each: Alabama Polytechnic Institute, Athens College, Baker University, Berea College, Crozer Theological Seminary, East Carolina College, Emory and Henry College, Marshall College, Otterbein College, University of Alabama, University of Florida, University of Graz, University of South Carolina, University of Virginia, West Virginia University, West Virginia Wesleyan, Yale Divinity School.

The following 1 each: American University, Brite College of the Bible (T.C.U.), Buena Vista College, Centenary College, Chicago Seminary, Citadel (The), College of William and Mary, Concord College, Dickinson College, Drexel Institute of Technology, Drury College, East Tennessee State College, Florida State University, Furman University, Garrett Biblical Institute, Georgia State College for Women, Henderson State Teachers College, Lambuth College, Louisiana Polytechnic Institute, Lycoming College, Macalester College, McCormick Theological Seminary, Meredith College, Methodist Seminary (Frankfurt, Germany), Methodist Theological Seminary (Korea), Michigan State College, Ohio Wesleyan University, Pembroke State College, Perkins School of Theology, Princeton University, Radford College, Richmond Professional Institute, Roanoke College, Southern Baptist Theological Seminary, Stanford University, Stetson University, Tri-State College, Troy State Teachers College, University of Arkansas, University of Maryland, University of Miami, University of Missouri, University of Tampa, Washington and Jefferson University, Washington and Lee University, Waynesburg College, Wesleyan University.

Total number of institutions represented: 91.

DENOMINATIONS REPRESENTED

1954-55
(Summer Sessions 1954 Included)

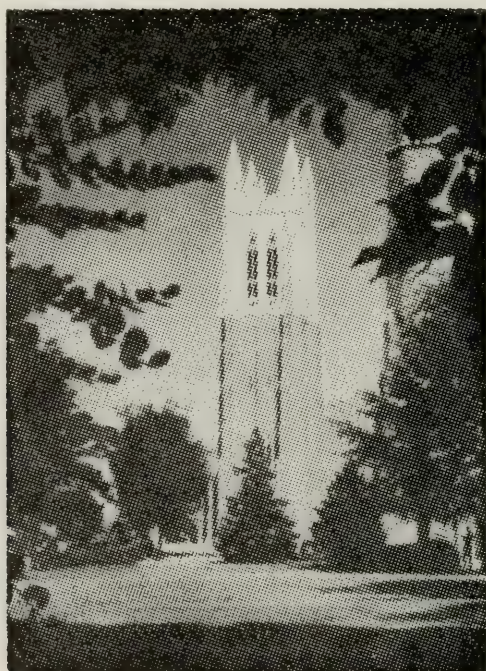
<i>Denomination</i>	<i>Divinity</i>	<i>Graduate</i>	<i>Total</i>
Methodist	215	10	225
Presbyterian	5	11	16
Baptist	5	7	12
Congregational Christian	7		7
Protestant Episcopal	2		2
Disciples of Christ.....	1	1	2
Evangelical and Reformed	1		1
Evangelical United Brethren	1		1
Free Will Baptist	1		1
Church of the Brethren		1	1
Church of Christ		1	1
	238	31	269

GEOGRAPHICAL DISTRIBUTION

North Carolina, 115; Virginia, 26; South Carolina, 14; Alabama, 13; West Virginia, 13; Florida, 10; Mississippi 8; Tennessee, 8; Pennsylvania, 7; Georgia, 7; Texas, 6; Kentucky, 5; New York, 5; Maryland, 4; Ohio, 4; Michigan, 3; Arkansas, 2; Iowa, 2; Louisiana, 2; Minnesota, 2; Missouri, 2; New Jersey, 2; Washington, D. C., 2; Austria, 2; Connecticut, 1; Germany, 1; Illinois, 1; Korea, 1; Massachusetts, 1.

STATES: 26

FOREIGN COUNTRIES: 3



BULLETIN
OF
DUKE UNIVERSITY



Catalogue Number

1954-1955

ANNOUNCEMENTS FOR 1955-1956

Annual Bulletins

For GENERAL BULLETIN of Duke University, apply to *The Registrar*, Duke University, Durham, N. C.

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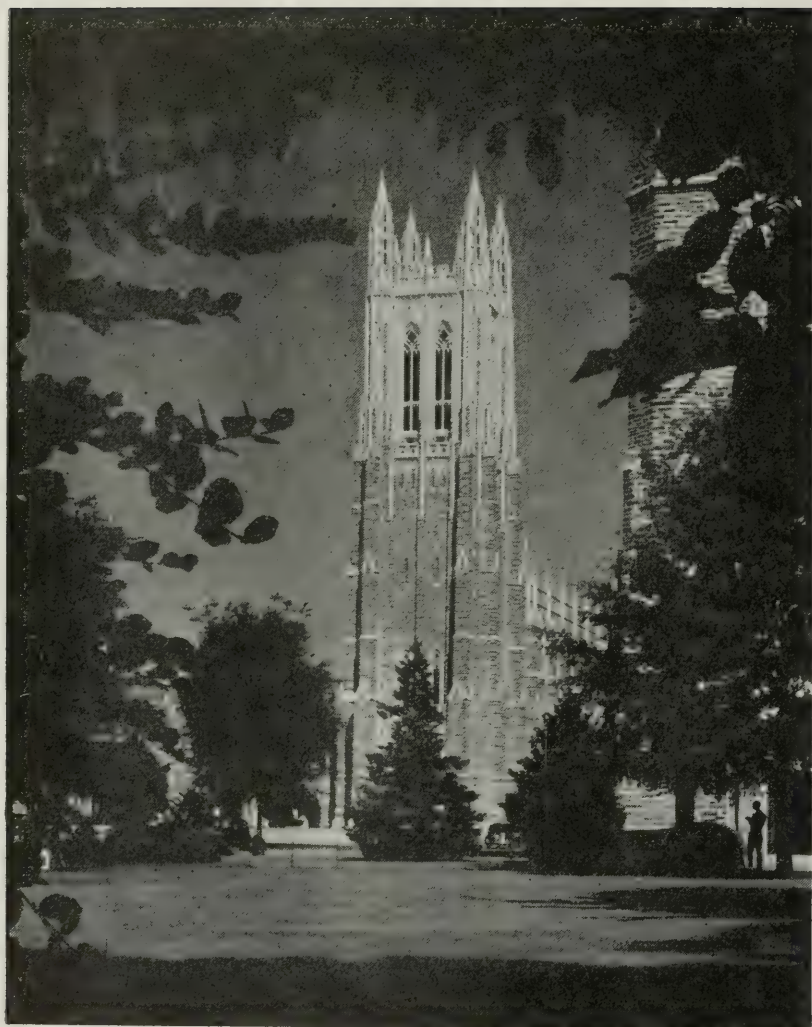
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DUKE UNIVERSITY

GENERAL CATALOGUE



ANNOUNCEMENTS FOR 1955-1956



THE CHAPEL

BULLETIN
OF
DUKE UNIVERSITY



CATALOGUE NUMBER

1954-1955

ANNOUNCEMENTS FOR 1955-1956

DURHAM, NORTH CAROLINA
1955

"I request . . . that great care and discrimination be exercised in admitting as students only those whose previous record shows a character, determination, and application evincing a wholesome and real ambition for life."

—JAMES B. DUKE.

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Calendar of the Colleges

1955

- September 15. Thursday, 7:30 P.M. Assembly for all entering freshmen; Freshman Orientation begins.
- September 15. Thursday, 7:30 P.M. Assembly for transfer students entering Trinity College and the College of Engineering.
- September 19. Monday. Registration and matriculation of former students of Trinity College and the College of Engineering, who have not pre-registered.
- September 20. Tuesday. Registration and matriculation of new students with advanced standing, Woman's College.
- September 21. Wednesday. Final registration of pre-registered students.
- September 22. Thursday. Fall semester classes begin.
- October 25. Tuesday. Examination in English Usage.
- November 7. Monday. Last day for reporting mid-semester grades.
- November 23. Wednesday, 5:00 P.M. Thanksgiving recess begins.
- November 28. Monday, 8:00 A.M. Classes are resumed.
- December 11. Sunday. Founders' Day.
- December 17. Saturday, 12:30 P.M. Christmas recess begins.

1956

- January 3. Tuesday, 8:00 A.M. Classes are resumed.
- January 14. Saturday, 12:30 P.M. Fall semester classes end.
- January 17. Tuesday. Final examinations begin.
- January 27. Friday. Final examinations end.
- January 30. Monday. Registration and matriculation of new students.
- January 31. Tuesday. Last day for matriculation for the spring semester.
- February 1. Wednesday. Spring semester classes begin.
- March 14. Wednesday. Last day for reporting mid-semester grades.
- March 24. Saturday, 12:30 P.M. Spring recess begins.
- April 2. Monday, 8:00 A.M. Classes are resumed.
- May 18. Friday, 5:00 P.M. Spring semester classes end.
- May 21. Monday. Final examinations begin.
- May 31. Thursday. Final examinations end.
- June 2. Saturday. Commencement begins.
- June 3. Sunday. Commencement Sermon.
- June 4. Monday. Graduating Exercises.

History



DUKE UNIVERSITY is built about a group of colleges which have their roots deep in the past. It was founded more than one hundred years ago when a number of earnest citizens from Randolph and adjacent counties assembled in a log school house to organize an educational society. They wished to provide lasting support for the local academy founded a few months before by an energetic son of North Carolina, Brantley York.

Moved by "no small share of philanthropy and patriotism," these men set forth their belief "that ignorance and error are the bane not only of religious but also of civil society" and that they "rear up almost an impregnable wall between man and the happiness he so ardently pants after." On that basis they formally adopted a constitution for the Union Institute Society. Thus in February, 1839, the academy became Union Institute. Twelve years later the Institute was reorganized as Trinity College. In 1892 it was moved from the fields of Randolph County to the growing city of Durham. Thirty-two years later the College grew into Duke University. With increasing enrollment and the development of specialized needs the Woman's College was formed in 1925 and the College of Engineering in 1938.

As the University developed around the core of the colleges, the Graduate School of Arts and Sciences expanded in number of students and in areas of instruction and research; the School of Law of Trinity College became the Duke University School of Law; and other professional schools were established. The Divinity School was organized in 1926, the School of Medicine and the School of Nursing in 1930, and the School of Forestry in 1938.

From academy to university the basic principles have remained constant. The University motto, *Eruditio et Religio*, reflects a fundamental faith in the union of knowledge and religion, the advancement of learning, the defense of scholarship, the love of freedom and truth, a spirit of tolerance, and a rendering of the greatest service to the individual, the state, the nation, and the church. Through changing generations of students the objective has been to encourage each individual to achieve to the extent of his capacities an understanding and appreciation of the world in which he lives, his relationship to it, his opportunities, and his responsibilities.

Government



1. THE INDENTURE OF TRUST BY WHICH THE UNIVERSITY WAS CREATED

Among the provisions of James B. Duke's Indenture of Trust was an educational institution to be known as Duke University, to the building and support of which he made provision at the time of execution of the Indenture and later by additions thereto by the operation of his Will. In respect to Duke University the Indenture contains the following provisions:

I. (In Article FOURTH) The Trustees hereunder are hereby authorized and directed to expend as soon as reasonably may be not exceeding Six Million Dollars of the corpus of this trust in establishing at a location to be selected by them within the State of North Carolina an institution of learning to be known as Duke University, for such purpose to acquire such lands and erect and equip thereon such buildings according to such plans as the Trustees may in their judgment deem necessary and adopt and approve for the purpose to cause to be formed under the laws of such state as the Trustees may select for the purpose a corporation adequately empowered to own and operate such properties under the name of Duke University as an institution of learning according to the true intent hereof, and to convey to such corporation when formed the said lands, buildings and equipment upon such terms and conditions as that such corporation may use the same only for such purposes of such university and upon the same ceasing to be so used then the same shall forthwith revert and belong to the Trustees of this trust as and become a part of the corpus of this trust for all the purposes thereof.

However, should the name of Trinity College, located at Durham, North Carolina, a body politic and incorporate, within three months from the date hereof (or such further time as the Trustees hereof may allow) be changed to Duke University, then, in lieu of the foregoing provisions of this division "FOURTH" of this Indenture, as a memorial to his father, Washington Duke, who spent his life in Durham and whose gifts, together with those of Benjamin N. Duke, the brother of the party of the first part, and of other members of the Duke family, have so largely contributed toward making possible Trinity College at that place, he directs that the Trustees shall expend of the corpus of this trust as soon as reasonably may be a sum not exceeding Six Million Dollars in expanding and extending said University, acquiring and improving such lands, and erecting, removing, remodeling and equipping such buildings, according to such plans, as the Trustees may adopt and approve for such purpose to the end that said Duke University may eventually include Trinity College as its undergraduate department for men, a School of Religious Training, a School for Training Teachers, a school of Chemistry, a Law School, Co-ordinate College for Women, a School of Business Administration, a Graduate School of Arts and Sciences, a Medical School and an Engineering School, as and when funds are available.

II. (In Article FIFTH) Thirty-two per cent of said net amount not retained as aforesaid for addition to the corpus of this trust shall be paid to that Duke University for which expenditures of the corpus of the trust shall have been made by the Trustees under the "Fourth" division of this Indenture so long as its name shall be Duke University and it shall not be operated for private gain, to be utilized by its Board of Trustees in defraying its administration and operating expenses, increasing and improving its facilities and equipment, the erection and enlargement of buildings and the acquisition of additional acreage for it, adding

to its endowment or in such other manner for it as the Board of Trustees of said institution may from time to time deem to be of its best interests, provided that in case such institutions shall incur any expense or liability beyond provisions already in sight to meet same, or in the judgment of the Trustees under this Indenture be not operated in a manner calculated to achieve the results intended hereby the Trustees under this Indenture may withhold the whole or any part of such percentage from said institution so long as such character of expense or liabilities or operation shall continue, such amounts so withheld to be in whole or in part either accumulated and applied to the purposes of such University in any future year or years, or utilized for the other objects of this Indenture, or added to the corpus of this trust for the purpose of increasing the principal of the trust estate, as the Trustees may determine.

III. (In Article SEVENTH) I have selected Duke University as one of the principal objects of this trust because I recognize that education, when conducted along sane and practical, as opposed to dogmatic and theoretical, lines, is, next to religion, the greatest civilizing influence. I request that this institution secure for its officers, trustees, and faculty, men of such outstanding character, ability, and vision as will insure its attaining and maintaining a place of real leadership in the educational world, and that great care and discrimination be exercised in admitting as students only those who previous records shows a character, determination, and application evincing a wholesome and real ambition for life. And I advise that the courses at this institution be arranged, first, with special reference to the training of preachers, teachers, lawyers and physicians, because these are most in the public eye, and by precept and example can do most to uplift mankind, and second, to instruction in chemistry, economics, and history, especially the lives of the great of earth, because I believe that such subjects will most help to develop our resources, increase our wisdom and promote human happiness.

IV. (In Article THIRD) As respects any year or years and any purpose or purposes for which this trust is created (except the payments hereinafter directed to be made to Duke University) the Trustees in their uncontrolled discretion may withhold the whole or any part of said incomes, revenues and profits which would otherwise be distributed under the "Fifth" division hereof, and either (1) accumulate the whole or any part of the amount so withheld for expenditures (which the Trustees are hereby authorized to make thereof) for the same purpose in any future year or years, or (2) add the whole or any part of the amounts so withheld to the corpus or the trust, or (3) pay, apply and distribute the whole or any part of said amounts to and for the benefit of any one or more of the other purposes of this trust, or (4) pay, apply and distribute the whole or any part of said amounts to or for the benefit of any such like charitable, religious or educational purpose within the State of North Carolina or the State of South Carolina, or any such like charitable hospital purpose which shall be selected therefor by Trustees called for the purpose, complete authority and discretion in and for such selection and utilization being hereby given the Trustees in the premises.

2. THE CHARTER OF THE UNIVERSITY

SECTION 1. That A. P. Tyer, J. H. Southgate, B. N. Duke, G. A. Oglesby, V. Ballard, J. A. Long, J. F. Bruton, J. N. Cole, F. A. Bishop, J. G. Brown, C. W. Toms, J. W. Alspaugh, W. R. Odell, J. A. Gray, F. Stikeleather, Kope Elias, S. B. Turrentine, P. H. Hanes, T. F. Marr, G. W. Flowers, M. A. Smith, R. H. Parker, W. J. Montgomery, F. M. Simmons, O. W. Carr, R. A. Mayer, N. M. Jurney, Dred Peacock, B. B. Nicholson, W. G. Bradsher, E. T. White, T. N. Ivey, J. B. Hurley, R. L. Durham, W. C. Wilson, and their associates and successors shall be, and continue as they have been, a body politic and corporate under the name and style of DUKE UNIVERSITY, and under such name and style shall have perpetual existence and are hereby invested with all the property and rights of property which now belong to the said corporation, and said corporation shall henceforth and perpetually, by the name and style of DUKE UNIVERSITY, hold and use all the authority, privileges, and possessions it had or exercised under any former title and name, and be subject to all recognized legal liabilities and obligations now outstanding against said corporations.

SEC. 2. That such corporation is authorized to receive and hold by gift, devise, purchase or otherwise, property, real and personal, to be held for the use of said University and its dependent schools or for the use of either or both (as may be designated in the conveyance or will).

SEC. 3. That the Trustees shall be thirty-six in number, of whom twelve shall be elected by the North Carolina Conference of the M. E. Church, South; twelve by the W. N. C. Conference of the said church; and twelve by the graduates of said University; *Provided, however,* That no person shall be elected a Trustee till he has first been recommended by a majority of the Trustees present at a regular meeting; and the Trustees shall have power to remove any member of their body who may remove beyond the boundary of the State or who may refuse or neglect to discharge the duties of a Trustee. The term of office of Trustees shall be six years, and they shall be so arranged that four Trustees shall be elected by each Conference and four by the graduates every two years. The Trustees shall regulate by bylaws the manner of election of the Trustees to be chosen by the graduates. Should there exist a vacancy by death, resignation, or otherwise of any Trustee, the same shall be filled for the unexpired term by the Board of Trustees. That the present Trustees shall continue and remain in office during the term for which they have been heretofore respectively elected.

SEC. 4. That the said corporation shall be under the supervision, management and government of a president and such other persons as said Trustees may appoint; the said president, with the advice of other persons so appointed, shall from time to time make all needful rules and regulations for the internal government of said University and prescribe the preliminary examinations and terms and conditions on which pupils shall be received and instructed.

SEC. 5. That said Trustees shall have power to make such rules, regulations, bylaws not inconsistent with the Constitution of the United States and of this State, as may be necessary for the good government of said University and management of the property and funds of the same.

SEC. 6. That the Trustees shall have power to fix the time of holding their annual and other meetings, to elect a president and professors for said University, to appoint an executive committee to consist of seven members, which committee shall control the internal regulations of said University and fix all salaries and emoluments, and to do all other things necessary for an institution of learning not inconsistent with the laws of this State and of the United States.

SEC. 7. That the Faculty and Trustees shall have the power of conferring such degrees and marks of honor as are conferred by colleges and universities generally; and that five Trustees shall be a quorum to transact business.

SEC. 8. That all laws and parts of laws or of the charter heretofore granted which are in conflict with this act are hereby repealed.

SEC. 9. That this act shall be in force from and after its ratification and acceptance by the Board of Trustees.

3. THE BYLAWS OF THE UNIVERSITY

1. AIMS OF THE UNIVERSITY. The aims of Duke University are to assert a faith in the eternal union of knowledge and religion set forth in the teachings and character of Jesus Christ, the son of God; to advance learning in all lines of truth; to defend scholarship against all false notions and ideals; to develop a Christian love of freedom and truth; to promote a sincere spirit of tolerance; to discourage all partisan and sectarian strife; and to render the largest permanent service to the individual, the state, the nation, and the church. Unto these ends shall the affairs of this University always be administered.

2. THE UNIVERSITY TRUSTEES, THEIR MEETINGS AND THEIR OFFICERS. The Alumni Trustees, nominated by the Board as provided for in the Charter, are elected by the Alumni Association. The officers of the Board are chairman, vice-chairman, and recording secretary. They are elected by the Trustees at their annual meeting to serve one year or until their successors are elected and qualify. The chairman calls to order and presides at all meetings of the Board, calls extraordinary meetings when, in his judgment, such meetings may be necessary, and represents

the Trustees at public meetings of the University. He is ex-officio member of the Executive Committee. In the absence of the chairman, the vice-chairman calls to order and presides over meetings of the Board, but does not perform any of the other duties of the chairman unless ordered to do so by the Board or the Executive Committee. The recording secretary records the minutes of all the meetings, does the correspondence, and is the custodian of the records and other documents that may belong to the Board.

3. **THE EXECUTIVE COMMITTEE.** The Executive Committee consists of seven members, three of them from the University Trustees, including the chairman of the Board ex-officio, three from the Endowment Trustees, and the President of the University ex-officio. It performs the duties set out for it in the charter—namely, controls the internal regulations of the University and fixes all salaries and emoluments. It has all the powers of the Board of Trustees in the interims between meetings of the Board of Trustees except the nomination of Trustees and election of members of the Executive Committee; however, appointment of officers of the University by the Executive Committee is subject to the approval of the University Trustees. The Executive Committee is expressly empowered to appoint an Investment Committee and to give to such Committee such powers and duties, as in the judgment of the Executive Committee, may seem fit. The Executive Committee is elected by the University Trustees, three of them on nomination of the Endowment Trustees, and the Committee elects its own officers who are chairman and recording secretary. It meets once a month (unless otherwise determined by the Committee) and oftener when necessary and by its own resolution sets its time and date of meetings except that special meetings are called by its chairman upon three or more days written or telegraphic notice to the members of the Committee. The Committee, through its chairman, once a year makes a report to the annual meeting of the University Trustees.

4. **OFFICERS OF THE UNIVERSITY.** The officers of the University are a president, three vice-presidents, a business manager and comptroller, a treasurer, a bursar, a dean of the University, and such other deans as may be needed, a recording dean or registrar, and a secretary who is also secretary of the faculty. There may also be a chancellor and a vice-chancellor. Whenever it may seem wise, one person may hold more than one office.

PRESIDENT. The President of the University calls, and presides at, all the meetings of the Faculties except as otherwise provided in these bylaws, and sees that the laws and regulations of the Executive Committee and the Trustees affecting the administration and work of the University are carried out. He has direction of the discipline and work of the University and, except as otherwise provided in these bylaws, appoints all committees of the Faculties. Anything in these bylaws to the contrary notwithstanding, the President may veto any action of any faculty or committee or agency thereof. However, in every instance he shall submit to the appropriate faculty, committee or agency in writing his reasons for setting aside their action, and the secretary of such Faculty shall record his reasons in the record book of such Faculty. The President makes an annual report to the Board of the work, conditions, and needs of the University, and of other matters that may be of concern to it or to the cause of higher education. He nominates all members of the Faculties, and represents them at all public meetings of the University. He is an ex-officio member of the Executive Committee and acts, unless the Trustees designate the Chancellor of the University for the purpose, as a medium of communication between the University Trustees and the Endowment Trustees.

CHANCELLOR. There may be a Chancellor of the University. If the Trustees appoint such an officer, he shall be selected for this office because of his long and faithful service to the University. Such an officer, if appointed, is a high officer of the University. He may be designated by the Trustees as the medium of communication between the University Trustees and the Endowment Trustees and when he is so designated the President does not act in such a capacity. He is available, when requested by the President, to render all possible services in an advisory capacity. He has such other duties as may, from time to time, be delegated to him by the Trustees.

VICE-CHANCELLOR. There may be a Vice-Chancellor of the University. If the Trustees appoint such an officer he shall be selected because of his long and faithful service to the University. When requested by the Chancellor, he performs the duties designated to the Chancellor by the Trustees. He is available, when requested by the Chancellor or President, to render all possible services in an advisory capacity. He also has such other duties as, from time to time, may be delegated to him by the Trustees.

VICE-PRESIDENTS. The three Vice-Presidents of the University have supervision of the work of the University in the divisions of (a) education, (b) public relations, and (c) student life. In the absence of the President, Vice-Presidents, in the above order, may perform such duties of the President as may demand immediate attention.

BUSINESS MANAGER AND COMPTROLLER. The Business Manager, who is also Comptroller, has the custody of all property of the University. He is responsible to an administrative committee and through such committee to the Trustees either directly or through the Executive Committee for all matters pertaining to the business affairs of the University except the investment of funds and is required to make monthly reports through such administrative committee to the Executive Committee and annual reports through the administrative committee to the Trustees concerning his accounts and the property in his charge. Such administrative committee is composed of not less than three nor more than five persons, three of whom are the President of the University, as chairman, the Business Manager and Comptroller, and a Vice-President selected from time to time by the Trustees or the Executive Committee. The Executive Committee has power to determine the number, if any, of additional members, up to the limit set, to be added to or removed from membership in the committee and in their judgment to make selection of the persons to be so added or so removed. The Business Manager and Comptroller annually prepares or causes to be prepared a Budget of expected Receipts and Disbursements and submits same to the Executive Committee for their approval. Upon such approval, he is primarily responsible for the operation of the Budget. He nominates to the Executive Committee any and all assistants required by him to do well the duties of his office. The Business Manager and Comptroller shall be required to give bond in such amount as may be designated by the Trustees or the Executive Committee for the faithful performance of his duties.

TREASURER. The Treasurer has primary responsibility for the care and custody of all securities and for the financial records of the University. He makes an annual report of his accounts to the Trustees and such reports, as from time to time, may be required of him by the Executive Committee. He also makes to the Business Manager and Comptroller monthly reports and oftener when required. He nominates to the Executive Committee any and all assistants required by him to do well the duties of his office including the nomination of a Bursar and Assistant Treasurer or Treasurers which officers and assistants shall primarily be responsible to him. The Treasurer and his assistants shall be required to give bond in such amount as may be designated by the Trustees or the Executive Committee for the faithful performance of their duties.

BURSAR. The Bursar has primary responsibility for all collections and disbursements. He is nominated by and responsible to the Treasurer to whom he makes such reports as the Treasurer from time to time requires of him. The Bursar shall be required to give bond in such amount as may be designated by the Trustees or the Executive Committee for the faithful performance of his duties.

SECRETARY. The Secretary of the University has custody of the corporate seal of the University and affixes and attests same when circumstances require and the Trustees or the Executive Committee so direct. He is also secretary of the Faculty, attends its meetings and makes permanent records of actions and transactions at such meetings. He has such other duties and responsibilities as his title suggests and may, from time to time, be delegated to him by the appropriate authorities.

5. **FACULTIES.** The University Faculty is composed of:

- (a) The President and the Secretary of the University and such officers designated by the President as primarily responsible for instruction and research; and
- (b) All persons of the rank of full instructor and above who are engaged in work for which recognized University degrees are awarded, and also members of the faculty emeriti.

The University Faculty in cooperation with the President and officers of the University, is responsible for the conduct of instruction and research in the various schools and colleges of the University.

In furtherance thereof this faculty:

- (a) Enacts such regulations as it deems necessary to carry on instruction and research, promote faculty and student welfare, advance the standard of work and otherwise develop the scholarly aims of the University;
- (b) Recommends to the University Trustees:
 - (1) Such persons as it deems fit to receive degrees or other marks of distinction; and
 - (2) The establishment of any new degree or diploma;
- (c) Consults with and advises the President on matters of general University policy within its competence, in order to assist him in carrying out his duties as the chief administrative officer of the University and as the means of communication between the Trustees and the administrative officers and Faculty;
- (d) Receives such information on the affairs of the University as is necessary for the exercise of its functions;
- (e) Subject to the reserved power of control by the Trustees and the President, determines policies to which the faculties of all schools and colleges and all committees and councils thereof are expected to conform;
- (f) In extraordinary circumstances, when normal channels of communication are not available, may by formal action request a conference between its representatives and representatives of the Board of Trustees or of the Executive Committee of the University. Under normal conditions the President of the University is the liaison between the University Faculty and the governing boards of the University or the committees thereof;
- (g) Has as its Chairman the President of the University and as its Secretary the Secretary of the University;
- (h) Meets regularly in October and February and before the June commencement; meets at other times on the call of the President or of the Vice-President in the Division of Education, or on the written request of twenty members. At the first meeting of each year the Faculty receives from the President a report on the state of the University;
- (i) May exercise its functions through such committees as it may choose to set up. The University Council is a standing committee of the Faculty, subject to its regulations under these bylaws.

The University Council consists of fifteen members as follows: The President of the University; the Vice-President in the Division of Education; three persons, who need not be members of the University Faculty, appointed annually by the President; and ten members elected from and by the University Faculty. The Faculty members are selected from the schools and colleges as follows: from the School of Medicine and the School of Nursing, one member; from the Divinity School, the School of Forestry, and the School of Law, one member; from the College of Engineering, Trinity College and the Woman's College, and the Graduate School of Arts and Sciences, three members; and from the University Faculty at large, five members. The members are elected by such methods and for such terms as the University Faculty may by regulation prescribe.

The Council has three officers: A Chairman who normally presides; a Vice-Chairman who presides in the absence of, or at the request of, the Chairman; and a Secretary. The President of the University is ex-officio Chairman of the Council. The Council elects annually by ballot the Vice-Chairman and Secretary from the Faculty members of the Council. The three officers constitute an agenda

committee and appoint members of committees set up by the Council in cases where membership is not otherwise prescribed by Council action. Faculty members and officers of the University who are not Council members may serve on Council Committees. The Council meets at such times as it elects. Special meetings are called by the Chairman, by the Vice-Chairman, or, at the request of three of its members, by the Secretary. A majority of the members shall constitute a quorum.

The University Council serves as an advisory body on matters of general University policy and interest.

Through the University Council the President endeavors to keep the University Faculty informed upon major matters of University policy, and expects the Council to bring to his attention any matters affecting the general interests and policies of the University.

In the exercise of its advisory function the Council, at the request of the President, a faculty or department, or any individual of the faculties or administration, or on its own initiative, may:

- (i) Consider any subject within its competence and report recommendations thereon to the President or to the University Faculty;
- (ii) Study and report to the President or to the University Faculty on matters within its competence relating to any division of the University subject to the jurisdiction of the President or University Faculty, whenever the Council, by a three-fourths vote, decides that such study is in the best interests of the University.

The Council makes periodic reports in writing to the University Faculty on its activities.

The Undergraduate Faculty Council is composed of: The President of the University; the Vice-Presidents in the Divisions of Education and Student Life; the Secretary of the University; the Dean of Undergraduate Studies; the Deans, Associate Deans, and Assistant Deans of Trinity College, the Woman's College and the College of Engineering; the University Librarian; the Director of the Summer Session; the Directors of Admissions; the Director of the Bureau of Testing and Guidance; and the Chairman and Director of Undergraduate Studies of each department in the above colleges. Any department which has more than five full-time teaching staff members shall elect one additional member to the Council; any department which has more than ten such staff members shall elect a total of two additional members to the Council. The President in his discretion may appoint not more than five additional voting members.

The Vice-President in the Division of Education, or his deputy, serves as Chairman of the Council. The Council may provide for such standing or special committees, including an executive committee, as it deems necessary. Membership on committees of the Council is not restricted to Council members. The Council normally meets once each month during the academic year. Special meetings are called by the Chairman and on the written request of five members of the Council.

The functions of the Council, subject to the regulations of the University Faculty, are:

- (a) To consider the broad objectives of undergraduate education;
- (b) To encourage the achievement and maintenance of high standards of teaching and scholarship in the undergraduate colleges;
- (c) To legislate on questions of curriculum for the undergraduate colleges of arts and sciences;
- (d) To adopt regulations concerning matters affecting the academic life of students in the undergraduate colleges, and to integrate the details of educational and related interests of those colleges.

In the exercise of its functions, the Council receives information on such matters as student aid, admissions and student life.

The Graduate School Faculty is composed of the President of the University; the Vice-President in the Division of Education; the Dean of the Graduate School; officers of the Graduate School; the Director of the Summer Session; the University

Librarian; and all full-time faculty members of the rank of assistant professor and above who are approved to offer graduate work or to supervise the research work of graduate students registered in the Graduate School.

The Dean of the Graduate School, or his deputy, serves as Chairman of the Graduate School Faculty. A Secretary is appointed by the President.

There is an Executive Committee consisting of the Dean of the Graduate School and members elected by and from the Graduate School in accordance with regulations prescribed by the Graduate School Faculty. This Committee serves in an advisory and consultative capacity and discharges specific duties delegated to it by the Graduate School Faculty.

The Graduate School Faculty meets twice each semester. Additional meetings may be called by the Chairman or on the written request of five members. The Executive Committee normally meets once each month but not less than six times during each academic year.

The functions of the Graduate School Faculty, subject to the regulations of the University Faculty, are:

- (a) To establish the standards of graduate work and the requirements for degrees in the Graduate School of Arts and Sciences;
- (b) To study and enact the necessary regulations governing courses of graduate instruction and graduate research;
- (c) To determine policies to be followed in dealing with other educational matters arising in the Graduate School of Arts and Sciences.

The Engineering Faculty Council consists of the President of the University; the Vice-President in the Division of Education; the Dean of the College of Engineering; the Dean of Undergraduate Studies; the Secretary of the Council; the Chairman and one additional representative from each department of Engineering; and three members from the University Faculty representing departments in which engineering students are required to take work. The Secretary and the three Faculty members from outside the College of Engineering are appointed annually by the President.

The Dean of the College of Engineering serves as Chairman of the Council. The Council normally meets once each month; additional meetings are called by the Chairman or on the written request of five Council members.

The Council considers and, subject to regulations of the University Faculty, legislates on questions of curricula and adopts regulations concerning those educational, professional, and administrative matters pertaining exclusively to the College of Engineering.

Each of the professional Schools of the University has its own faculty.

The President of the University, the Vice-President in the Division of Education, and all members of the University Faculty in each professional school are members of the faculty of that school.

The Dean of each professional school, or his deputy, serves as chairman of the Faculty of that school. Each faculty arranges details of its organization to fit its particular needs, observing the general principles of representation, freedom of discussion and democratic procedures.

The functions of each professional school faculty, subject to the regulations of the University Faculty, are to legislate on its curriculum and programs of work and to adopt regulations on the educational and administrative activities of that school.

6. ACADEMIC YEAR. The academic year begins on the morning of the Wednesday following September 15. The annual Commencement comes in the week including the first Sunday in June. The Christmas recess begins at 1:00 P.M. December 20 (or December 19 if December 20 falls on Sunday), and ends at 8:00 A.M., January 3 (or January 4 if January 3 falls on Sunday). The spring recess begins at 1:00 P.M. of the Saturday in March nearest to March 25, and ends at 8:00 A.M., of Monday nine days later. Thanksgiving Day is a holiday.

7. TENURE OF OFFICE. Teachers of all ranks are subject to removal by the

Executive Committee, with the approval of the University Trustees, for misconduct or neglect of duty. Teachers may be elected for terms of one, two, three, or four years; or teachers with the rank of professor may be elected without time-limit. Administrative officers are usually elected without time-limit, but the Executive Committee, with the approval of the University Trustees, may remove any officer of the University, whenever, in their opinion, he is not properly performing the duties of his office.

8. The bylaws may be amended at any regular meeting of the University Trustees by the affirmative vote of two thirds of the then membership of the Board, providing that the proposed amendment is submitted through the Secretary of the Board to the members at least twenty days before the meeting.

SABBATICAL LEAVE

Sabbatical leave of absence for members of the University Faculty is granted under regulations adopted by the Executive Committee of the Trustees on March 28, 1923, revised in 1928, partly in abeyance in the year 1933-34 and the succeeding three years, and restored in the year 1937-38. The conditions on which sabbatical leave of absence is granted are set forth below.

1. Every member of the University Faculty (of the rank of professor, associate professor, and assistant professor) is eligible for sabbatical leave after six years in the service of the University. Such leave may be taken for a full year at half salary or a half year at full salary.

2. In order to obtain a sabbatical leave written request for such leave must be filed with the President of the University by December 1 of the academic year preceding the one in which the leave is to take effect.

3. If in exceptional cases it should develop that the granting of leave to an applicant during the year for which application is made would raise very serious difficulties detrimental to the best interests of the applicant's department or school, or the interests of the institution as a whole; or because of questions concerning the applicant's period of service prior to the leave, the President shall appoint a committee which shall have power to decide the question of granting the sabbatical leave for the particular year under consideration. This committee shall consist of five members as follows: two members of the general faculty appointed yearly by the President, the Treasurer of the University, the Dean of the school or college of which the applicant is a member, the chairman of the applicant's department, or should no such chairman exist another member of the applicant's department.

4. If this committee should decide against the granting of a sabbatical leave for the year for which the applicant applied, the applicant would be eligible for sabbatical leave the following year or any year thereafter upon making application in due form as above.

5. After September 1, 1928, if a member of the faculty on becoming eligible for sabbatical leave does not for some special reason apply for such leave, he may count the additional years of service prior to his leave towards the six years of service necessary before he can apply for a subsequent leave. If in an exceptional case an applicant for personal reasons applies for a sabbatical leave to be effective in advance of his regular year and such leave is granted, he shall not be eligible for a subsequent leave until he has served six years plus the number of years by which this leave is advanced.

6. On recommendation of the committee after leave of absence has been granted it may be postponed for urgent reasons and under conditions to be determined by the committee.

7. All of those cases which have occurred in the past or which may occur in the future in which leave of absence is granted under conditions where the absentee receives full pay for a half year or half pay or more for a full year's leave of absence, shall be considered as regular sabbatical leave under these regulations.

8. These revised regulations became effective as of September 1, 1928, and sabbatical leaves under such regulations began with the academic year 1929-30. The regulations were partly in abeyance in 1933-34, 1934-35, 1935-36, and 1936-37.

The restoration of the regulations began with the academic year 1937-38. The four years, 1933-34, 1934-35, 1935-36, and 1936-37, may not count toward the six years of service necessary before application can be made for leave of absence. In all cases in which special arrangements have been made for the granting of sabbatical leave (as described in condition No. 7) during the period of partial abeyance of the plan, the next six years of service shall be counted as beginning with the academic year 1937-38. All other members of the General Faculty who apply for sabbatical leave may count the years of service they had to their credit at the beginning of the academic year 1933-34.

RETIREMENT

The following resolution was passed by the Board of Trustees on June 5, 1948:

RESOLVED, That the following regulations shall from the date of the adoption of this resolution govern the retirement of all officers and employees of Duke University:

I. Retirement.

Except as provided in Section II of this resolution all officers and employees of Duke University, except the Chancellor and Vice-Chancellor, shall retire at the end of the academic year in which they attain the age of sixty-nine (69), herein called the normal retirement age.

II. Extension of Service.

By special vote of the Board of Trustees individual extensions of service beyond the normal retirement age may be made for a definite period not to exceed one year, but no such extension shall postpone retirement beyond the end of the academic year in which the age of seventy (70) is attained.

III. Amendment of Retirement Annuity Plan Adopted October 1, 1925.

The retirement annuity plan adopted by Duke University on October 1, 1925, is hereby amended in those respects required to conform said plan with the provisions of this resolution.

IV. Amendment.

The University reserves the right at any time to amend these regulations by lowering the retirement age, or altering or abolishing the provision for extension of service, or otherwise.

Officers of the University for the Year 1954-55



The Corporation

The date in parenthesis indicates the year of election.

THE EXECUTIVE COMMITTEE

NORMAN ATWATER COCKE (1953), <i>ex officio</i> , <i>Chairman</i>	Charlotte, N. C.
GEORGE GARLAND ALLEN (1923)	New York, N. Y.
ARTHUR HOLLIS EDENS (1948), <i>ex officio</i>	Durham, N. C.
PHILLIP FRANK HANES (1954)	Walkertown, N. C.
AMOS RAGAN KEARNS (1948)	High Point, N. C.
ALEXANDER HAMILTON SANDS, JR. (1946)	New York, N. Y.
BUNYAN SNIPES WOMBLE (1950)	Winston-Salem, N. C.
CHRISTINE ALLEN KIMBALL (1945), <i>Recording Secretary</i>	Durham, N. C.

THE UNIVERSITY TRUSTEES

TRUSTEES WHOSE TERM EXPIRES DECEMBER 31, 1957

CHARLES ALBERT CANNON (1949)	Concord, N. C.
*HENRY CLAY DOSS (1943)	Detroit, Mich.
PHILLIP FRANK HANES (1948), <i>Vice-Chairman</i>	Walkertown, N. C.
PLEASANT HUBER HANES, JR. (1954)	Winston-Salem, N. C.
WILLIAM WALTER PEELE (1921)	Laurinburg, N. C.
FRANK GRAINGER PIERCE (1954)	Charlotte, N. C.
ALEXANDER HAMILTON SANDS, JR. (1946)	New York, N. Y.
BUNYAN SNIPES WOMBLE (1915)	Winston-Salem, N. C.

FROM THE ALUMNI

CHARLES PHILLIPS BOWLES (1954)	Charlotte, N. C.
NORMAN EDWARD EDGERTON (1941)	Raleigh, N. C.
AMOS RAGAN KEARNS (1945)	High Point, N. C.
ROBERT ANDREW MAYER (1897)	Charlotte, N. C.

TRUSTEES WHOSE TERM EXPIRES DECEMBER 31, 1959

NORMAN ATWATER COCKE (1947), <i>Chairman</i>	Charlotte, N. C.
DONALD SILER ELIAS (1929)	Asheville, N. C.
JOSEPH LAWRENCE HORNE (1934)	Rocky Mount, N. C.
†WALKER PATTERSON INMAN (1949)	Georgetown, S. C.
JEFFERSON DEEMS JOHNSON, JR. (1955)	Raleigh, N. C.
BENJAMIN EVERETT JORDAN (1943)	Saxapahaw, N. C.
JAMES BUREN SIDBURY (1947)	Wilmington, N. C.
KENNETH CRAWFORD TOWE (1954)	New York, N. Y.
EARLE WAYNE WEBB (1933)	New York, N. Y.

* Resigned, June 4, 1955.

† Died, September 19, 1954.

FROM THE ALUMNI

SIDNEY SHERRILL ALDERMAN (1934)	Washington, D. C.
KENNETH MILLIKAN BRIM (1952)	Greensboro, N. C.
EDGAR HARRISON NEASE (1950)	Mount Airy, N. C.
GEORGE ROBERTS WALLACE (1954)	Morehead City, N. C.

TRUSTEES WHOSE TERM EXPIRES DECEMBER 31, 1961

GEORGE GARLAND ALLEN (1923)	New York, N. Y.
ROBERT GREGG CHERRY (1934)	Gastonia, N. C.
JESSE PAUL FRIZZELLE (1937)	Snow Hill, N. C.
CALVIN BRYAN HOUCK (1951)	Roanoke, Va.
EDWIN LEE JONES (1945)	Charlotte, N. C.
JAMES RAYMOND SMITH (1934)	Mount Airy, N. C.
ESTELLE FLOWERS SPEARS (1951)	Durham, N. C.
RICHARD ELTON THIGPEN (1953)	Charlotte, N. C.

FROM THE ALUMNI

BENJAMIN FERGUSON FEW (1941)	New York, N. Y.
JULIUS WELCH HARRISS (1947)	High Point, N. C.
WILLIAM JULIUS HOBBS (1947)	Atlanta, Ga.
HUBBARD BRAXTON PORTER (1941)	Troy, N. C.

TRUSTEES EMERITI

JAMES ARDREY BELL (1920)	Charlotte, N. C.
HENRY CLAY DOSS (1943)	Detroit, Mich.
PLEASANT HUBER HANES (1912)	Winston-Salem, N. C.

COMMITTEES OF THE UNIVERSITY TRUSTEES

Buildings and Grounds: Messrs. Smith, Cherry, Jordan, and Kearns.

Business Administration: Messrs. Elias, Hobbs, Kearns, and Sands.

Colleges: Messrs. Mayer, P. F. Hanes, and Houck, and Mrs. Spears.

Divinity School: Messrs. Peele, Bowles, Edgerton, Nease, and Porter.

School of Forestry: Messrs. Cherry, Edgerton, Few, and Smith.

Graduate School: Messrs. Webb, Cannon, Doss, and Thigpen.

Law School: Messrs. Womble, Alderman, Cherry, Cocke, Frizzelle, and Pierce.

Library: Messrs. Doss, Allen, Harriss, and Nease.

Medical School and Hospital: Messrs. Elias, Horne, Inman,* Sidbury, and Towe.

Physical Education and Athletics: Messrs. Smith, Edgerton, P. F. Hanes, Harriss, and Jordan.

Engineering and Research: Messrs. Cocke, Doss,† Jones, Jordan, Sands, and Webb.

Cooperation and National Council: Messrs. Sands, Few, Hobbs, Kearns, and Nease.

Public Relations and Publicity: Messrs. Horne, Elias, P. H. Hanes, Jr., Harriss, and Wallace.

Officers Emeriti

ALICE MARY BALDWIN, Ph.D., LL.D.

Professor Emeritus of History

406 Swift Avenue

HAROLD CRUSIUS BIRD, Ph.B., C.E.

Professor Emeritus of Civil Engineering

1209 Virginia Avenue

* Died, September 19, 1954.

† Resigned, June 4, 1955.

- *JOSEPH PENN BREEDLOVE, M.A.
Librarian Emeritus 407 Watts Street
- FREDERICK AUGUSTUS GRANT COWPER, Ph.D.
Professor Emeritus of Romance Languages 1017 Dacian Avenue
- CHARLES WILLIAM EDWARDS, A.M., M.S.
Professor Emeritus of Physics 406 Buchanan Boulevard
- WILLIAM STONE FITZGERALD, A.M.
Instructor Emeritus of English 603 Watts Street
- WILLIAM HOLLAND HALL, A.M., M.S.C.E.
J. A. Jones Professor Emeritus of Engineering 922 Urban Avenue
- †MRS. LILLIAN B. GRIGGS, B.A. in L.S.
Librarian Emeritus 915 Monmouth Avenue
- GEORGE T. HARGITT, Ph.D., Sc.D.
Professor Emeritus of Zoology 811 Watts Street
- CHARLES CLEVELAND HATLEY, Ph.D.
Professor Emeritus of Physics Mt. Pleasant, N. C.
- FRANKLIN SIMPSON HICKMAN, Ph.D., D.D.
Professor Emeritus of the Psychology of Religion 809 West Maumee Street
Angola, Indiana
- HUGO CLAUDE HORACK, LL.B., LL.D.
Professor Emeritus of Law 4647 Twenty-fourth Street, N.W.
Arlington, Va.
- JAY BROADUS HUBBELL, Ph.D., Litt.D.
Professor Emeritus of English 121 Pinecrest Road
- CHARLES ALBERT KRUMMEL, Ph.D.
Professor Emeritus of German 2118 Englewood Avenue
- WILLIAM THOMAS LAPRADE, Ph.D.
Professor Emeritus of History 1108 Monmouth Avenue
- MALCOLM McDERMOTT, LL.B.
Professor Emeritus of Law Route 1, Durham, N. C.
- KARL BACHMAN PATTERSON, A.M.
Assistant Professor Emeritus of Mathematics 1024 Monmouth Avenue
- ARTHUR SPERRY PEARSE, Ph.D., LL.D.
Professor Emeritus of Zoology 803 Second Street
- ARTHUR MARCUS PROCTOR, Ph.D.
Professor Emeritus of Education 1500 Edgedale Drive
- WILLIAM WALTER RANKIN, JR., M.A.
Professor Emeritus of Mathematics Phillips Exeter Academy
Exeter, New Hampshire
- GILBERT THEODORE ROWE, S.T.D., D.D., Litt.D.
Professor Emeritus of Christian Doctrine 150 Pinecrest Road
- MRS. BESSIE WHITTED SPENCE, A.M., B.D.
Assistant Professor Emeritus of Biblical Literature 3629 Hope Valley Road, Hope Valley
- HERSEY EVERETT SPENCE, B.D., D.D., Litt.D.
Professor Emeritus of Religious Education 3629 Hope Valley Road, Hope Valley
- HERBERT WILFRID SUGDEN, Ph.D.
Assistant Professor Emeritus of English Pinehurst, N. C.
- MRS. MARY HENDREN VANCE, A.M.
Assistant Professor Emeritus of English 814 Cowper Drive, Raleigh, N. C.
- ALBERT MICAIAH WEBB, A.M.
Professor Emeritus of Romance Languages 1017 Trinity Avenue

* Died, May 24, 1955.

† Died, April 11, 1955.

ALBAN GREGORY WIDGERY, M.A. <i>Professor Emeritus of Philosophy</i>	152 Pinecrest Road
RALPH SYDNEY WILBUR, B.S. in M.E., M.E. <i>Professor Emeritus of Mechanical Engineering</i>	1018 Demerius Street
FLORENCE K. WILSON, R.N., M.A. <i>Professor Emeritus of Nursing Education, and Dean Emeritus of the School of Nursing</i>	Route 1, Tryon, N. C.
ROBERT NORTH WILSON, M.S. <i>Professor Emeritus of Chemistry</i>	822 Third Street
FREDERICK ADOLPHUS WOLF, Ph.D. <i>James B. Duke Professor Emeritus of Botany</i>	924 Urban Avenue
EDWARD HUDSON YOUNG, A.M. <i>Assistant Professor Emeritus of Romance Languages</i>	107 Watts Street

Officers of Administration

GENERAL ADMINISTRATION

ARTHUR HOLLIS EDENS, Ph.D., LL.D. <i>President of the University</i>	2138 Myrtle Drive
WILLIAM HANE WANNAMAKER, A.M., Litt.D. <i>Vice-Chancellor of the University</i>	615 West Campus
PAUL MAGNUS GROSS, Ph.D. <i>Vice-President in the Division of Education</i>	3816 Dover Road, Hope Valley
CHARLES EDWARD JORDAN, A.B., LL.D. <i>Vice-President in the Division of Public Relations</i>	813 Vickers Avenue
HERBERT JAMES HERRING, M.A., LL.D. <i>Vice-President in the Division of Student Life</i>	2010 Myrtle Drive
ALFRED SMITH BROWER, A.B. <i>Business Manager and Comptroller</i>	614 West Campus
CHARLES BLACKWELL MARKHAM, A.M. <i>Treasurer of the University</i>	204 Dillard Street

EDUCATIONAL ADMINISTRATION

PAUL MAGNUS GROSS, Ph.D. <i>Vice-President in the Division of Education, and Dean of the University</i>	3816 Dover Road, Hope Valley
RICHARD LOVEJOY TUTHILL, Ed.D. <i>University Registrar</i>	1014 Gloria Avenue

The Colleges

ROBERTA FLORENCE BRINKLEY, Ph.D. <i>Dean of the Woman's College</i>	East Campus
HERBERT JAMES HERRING, M.A., LL.D. <i>Dean of Trinity College</i>	2010 Myrtle Drive
WALTER JAMES SEELEY, E.E., M.S. <i>Dean of the College of Engineering</i>	1005 Urban Avenue
ALAN KREBS MANCHESTER, Ph.D. <i>Dean of Undergraduate Studies</i>	2016 Myrtle Drive
WILLIAM COUNCILL ARCHIE, Ph.D. <i>Associate Dean of Trinity College</i>	2310 Cranford Road

- SUSAN A. CLAY, M.A.
Acting Associate Dean of Academic Instruction 216 Faculty Apartments
- ROBERT B. COX, A.M.
Dean of Undergraduate Men 1107 Ninth Street
- ELLEN HARRIS HUCKABEE, A.M.
Dean of Undergraduate Instruction, Woman's College 1507 W. Pettigrew Street
- MARIANNA DUNCAN JENKINS, Ph.D.
Associate Dean of Undergraduate Instruction, Woman's College 1026 Minerva Avenue
- LEWIS J. McNURLEN, M.A.
Assistant Dean of Freshmen and Sophomores, Trinity College 1818 Glendale Avenue
- LANIER W. PRATT, M.A.
Assistant Dean of Trinity College 2007 Ruffin Street
- MARY GRACE WILSON, A.M.
Dean of Undergraduate Women Faculty Apartments
- MRS. FRANCIS M. WHITAKER, M.A.
Assistant to the Dean of Undergraduate Women 212 Faculty Apartments
- MRS. ELIZABETH ANDERSON PERSONS, A.M.
Director of Admissions, Woman's College 612 Swift Avenue
- EVERETT BROADUS WEATHERSPOON, A.B.
Director of Admissions, Trinity College and the College of Engineering 125 Pinecrest Road
- WILLIAM LAMBRETH BRINKLEY, JR., A.B., M.P.S.
Assistant Director of Admissions, Trinity College and the College of Engineering 202 Faculty Apartments, East Campus
- BARBARA EVANS, A.B.
Field Secretary, Undergraduate Admissions E3D University Apartments
- CHARLES BUCK ROBERTS, A.M.
Field Secretary, Undergraduate Admissions 13 Beverly Apartments
- BROOKS MILTON WAGGONER, B.D., Ph.D.
Field Secretary, Undergraduate Admissions 506 Buchanan Boulevard
- *PATRICIA COHAN, A.B.
Field Secretary, Undergraduate Admissions No. D9, Westover Park Apartments
- MARGARET L. COLEMAN, A.M.
Central Records Supervisor 918 Urban Avenue
- MRS. DOROTHY HOLT McELDUFF, A.B.
Recorder, College of Engineering 100 Forest Wood Road
- LOUISE SEABOLT, A.M.
Recorder, Woman's College Faculty Apartments
- HENRY WEITZ, Ed.D.
Director of the Bureau of Testing and Guidance 517½ South Duke Street
- ROBERT MERLE COLVER, Ed.D.
Assistant Director, Bureau of Testing and Guidance 900 Dacian Avenue
- W. SCOTT GEHMAN, JR., Ph.D.
Senior Counselor, Bureau of Testing and Guidance 420 Carolina Circle
- J. ALBERT SOUTHERN, A.B.
Psychometrist, Bureau of Testing and Guidance 862 Louise Circle, Poplar Apartments

* Resigned, June 30, 1954.

Graduate and Professional Schools

MARCUS EDWIN HOBBS, Ph.D. <i>Dean of the Graduate School of Arts and Sciences</i>	115 Pinecrest Road
EARL THOMAS HANSON, Ph.D. <i>Director of Admissions, Graduate School of Arts and Sciences</i>	613 Swift Avenue
JAMES CANNON, A.M., Th.M., D.D. <i>Dean of the Divinity School</i>	2022 Myrtle Drive
CLARENCE FERDINAND KORSTIAN, Ph.D. <i>Dean of the School of Forestry</i>	4 Sylvan Road
JOSEPH A. MCCLAIN, JR., J.S.D., LL.D. <i>Dean of the School of Law</i>	2021 Myrtle Drive
WILBURT CORNELL DAVISON, D.Sc., M.D., LL.D. <i>Dean of the School of Medicine</i>	Hope Valley
ANN MADELINE JACOBANSKY, R.N., B.S.N.E., M.Ed. <i>Dean of the School of Nursing</i>	Westover Park Apartments
PAUL HIBBERT CLYDE, Ph.D. <i>Director of the Summer Session</i>	1311 Carolina Avenue
OLAN L. PETTY, Ph.D. <i>Assistant Director of the Summer Session</i>	1509 Woodland Drive
CAZYLN GREEN BOOKHOUT, Ph.D. <i>Director of the Duke Marine Laboratory</i>	1307 Alabama Avenue
ANNE INMAN, B.S. <i>Administrative Assistant, Graduate School</i>	1100 Oakland Avenue
HELEN MILDRED KENDALL, A.B. <i>Administrative Assistant and Secretary of the Faculty, Divinity School</i>	Faculty Apartments

BUSINESS ADMINISTRATION

ALFRED SMITH BROWER, A.B. <i>Business Manager and Comptroller</i>	614 West Campus
CHARLES BLACKWELL MARKHAM, A.M. <i>Treasurer of the University</i>	204 Dillard Street
CHARLES EDWARD JORDAN, A.B., LL.D. <i>Secretary of the University</i>	813 Vickers Avenue
EDWIN CONSTANT BRYSON, LL.B. <i>University Attorney</i>	818 Anderson Street
GERHARD CHESTER HENRICKSEN, C.P.A. <i>Assistant Business Manager and Assistant Comptroller</i>	216 Forest Wood Drive
JOHN M. DOZIER, A.B. <i>Associate Secretary of the University</i>	2111 Ruffin Street
WILLIAM EDWARD WHITFORD, A.B. <i>Director of Operation and Maintenance</i>	146 Pinecrest Road
THEODORE WARREN MINAH, B.S. in H.M. <i>Director of Dining Hall Operations</i>	2117 Club Boulevard
MARY ROBINSON, B.A., B.S. <i>Manager, the Dining Halls, Woman's College</i>	2729 Circle Drive
ELIZABETH MARGUERITE KAISER, B.A., M.S. <i>Manager, the Dining Halls, Men's Graduate Center</i>	921 Lambeth Circle, Poplar Apartments
JOHN ELLWOOD DOXEY, A.M. <i>Purchasing Agent</i>	1004 Broad Street

JESSE DAVID WELLONS, JR. <i>Manager of Stores Operations</i>	2703 Augusta Drive
WALTER GLEN COOPER, B.A. <i>Personnel Director</i>	1008 North Gregson Street
WILLIAM KENNETH HOWARD, B.S. <i>Maintenance Engineer</i>	106 Pinecrest Road
HENRY FRANKLIN BOWERS, A.B. <i>Manager of Operations</i>	2505 Perkins Road
ERNEST LEE HAYWOOD, A.B. <i>Chief Accountant</i>	104 Hilton Avenue
CHARLES R. DUVAL, C.P.A. <i>Internal Auditor</i>	Apartment 14, Fifth and Markham Avenue
KENNETH R. MANNING, A.B. <i>Supervisor, Tabulating Department</i>	Duke University Apartments
HENRY SPECK MORGAN, A.B. <i>Chief Clerk, Treasurer's Office</i>	409 Francis Street
WILLIAM J. GRIFFITH, A.B. <i>Director, Student Union</i>	2312 Wilson Street
CARL A. BOY <i>Superintendent of Utilities</i>	2214 Erwin Road
JOHN C. GIFT <i>Superintendent of Building Maintenance</i>	811 Fifth Street

PUBLIC RELATIONS

CHARLES EDWARD JORDAN, A.B., LL.D. <i>Vice-President in the Division of Public Relations</i>	813 Vickers Avenue
JOHN M. DOZIER, A.B. <i>Assistant to the Vice-President in the Division of Public Relations; Executive Secretary, University Scholarship Committee</i>	2111 Ruffin Street
EARL W. PORTER, A.B., B.J. <i>Director, Bureau of Public Information</i>	Randolph Road
NORMAN NELSON, A.M. <i>Assistant Director, Bureau of Public Information</i>	1305 Carolina Avenue
GLENN EDWARD MANN, A.B. <i>Director, Office of Athletic Information</i>	Cole Mill Road
FANNIE YARBROUGH MITCHELL <i>Director, Appointments Office</i>	16 Alastair Court

ALUMNI AFFAIRS

CHARLES AUBREY DUKES, A.B. <i>Director</i>	1309 Oakland Avenue
ANNE GARRARD, A.M. <i>Assistant Director</i>	1411 North Duke Street
WILLIAM ALLEN TYREE, A.B. <i>Field Secretary, Duke University Loyalty Fund</i>	610 Buchanan Boulevard
CHARLOTTE CORBIN, A.B. <i>Assistant to the Director</i>	403 W. Chapel Hill Street

ROGER L. MARSHALL, A.B. <i>Editor, Alumni Register, and Assistant to the Director</i>	1829 Forest Road
FRED W. WHITENER, A.B. <i>Secretary of Local Associations</i>	Cornwallis Road
PATSY G. MCKAY, A.B. <i>Recorder</i>	Route 2, Roxboro Road
CLARK C. COOK, A.B. <i>Editorial Assistant</i>	2337 Glendale Avenue
THAD W. SPARKS <i>University Photographer</i>	1206 B Street
*JAMES J. WHITLEY, JR. <i>University Photographer</i>	2509 Banner Street

Officers of Instruction

INSTRUCTIONAL STAFF

FRANCES DOROTHY ACOMB (1945), Ph.D. <i>Assistant Professor of History</i>	C-1B University Apartments
DONALD KEITH ADAMS (1931), Ph.D. <i>Professor of Psychology</i>	2508 Cornwallis Road
EDWIN PASCAL ALYEA (1930), M.D. <i>Professor of Urology</i>	3102 Devon Road, Hope Valley
LEWIS EDWARD ANDERSON (1936), Ph.D. <i>Professor of Botany</i>	2020 Sunset Avenue
ROGER FABIAN ANDERSON (1950), Ph.D. <i>Associate Professor of Forest Entomology</i>	2528 Perkins Road
WILLIAM BANKS ANDERSON (1930), M.D. <i>Professor of Ophthalmology</i>	502 East Forest Hills Boulevard
HAROLD LEE ANDREWS (1954), M.M. <i>Temporary Instructor in Music</i>	713 Club Boulevard
WILLIAM G. ANLYAN (1951), M.D. <i>Assistant Professor of Surgery</i>	2519 Pickett Road
†WILLIAM COUNCILL ARCHIE (1946), Ph.D. <i>Associate Professor of Romance Languages</i>	2310 Cranford Road
JAY MORRIS ARENA (1933), M.D. <i>Associate Professor of Pediatrics</i>	2032 Club Boulevard
KIRO PETE ARGES (1953), M.S. in C.E. <i>Assistant Professor of Civil Engineering</i>	915 Lambeth Circle, Poplar Apartments
RALPH ARANOVITZ ARNOLD (1946), M.D. <i>Associate Professor of Otolaryngology and Ophthalmology</i>	415 Carolina Circle
‡JOHN RAINEY ASHE, JR. (1954), M.D. <i>Associate in Obstetrics and Gynecology</i>	944 Lambeth Circle Poplar Apartments
THEODORE WINSLOW ATWOOD (1934), D.M.D. <i>Associate in Dentistry</i>	9 Carolee Apartments, 2200 Elder Street
§HOWARD M. AUSERMAN (1953), M.D. <i>Associate Professor of Anesthesiology</i>	Apartment 5, Erwin Road, Staff Quarters
THOMAS MALCOLM AYCOCK (1937), M.A. <i>Professor of Physical Education</i>	DIC University Apartments

* Resigned, August 31, 1954.

† Absent on sabbatical leave, spring semester, 1954-55.

‡ Resigned, December 31, 1954.

§ Resigned, February 10, 1955.

- JOSEPH RANDLE BAILEY (1946), Ph.D.
Assistant Professor of Zoology 2117 Sprunt Street
- LENOX DIAL BAKER (1947), M.D.
Professor of Orthopaedic Surgery 3106 Cornwall Road, Hope Valley
- ROGER D. BAKER (1930-1942; 1952), M.D.
Professor of Pathology 303 Swift Avenue
- MARIE BALDWIN (1949), M.D.
Associate in Psychiatry Duke Hospital
- *KATHARINE MAY BANHAM (1946), Ph.D.
Associate Professor of Psychology 115 North Dillard Street
- †EUGENE PENDLETON BANKS (1953), Ph.D.
Instructor in Sociology Randolph Road, Route 1
- JAMES FOSTER BARNES (1929), M.A.
Lecturer in Church Music 2401 Cranford Road
- ROBERT HENRY BARNES (1953), M.D.
Assistant Professor of Psychiatry 2412 Acadia Street
- JAMES W. BARNHILL (1954), M.A., Major, U. S. Air Force
Assistant Professor of Air Science 2507 Glendale Avenue
- PAULL FRANKLIN BAUM (1922), Ph.D.
James B. Duke Professor of English 112 Pinecrest Road
- GEORGE JAY BAYLIN (1939), M.D.
Professor of Radiology and Associate in Anatomy 2260 Cranford Road
- CHARLES A. BAYLIS (1952), Ph.D.
Professor of Philosophy 601 East Markham Avenue
- WILLIAM WALDO BEACH (1946), B.D., Ph.D.
Professor of Christian Ethics 100 Vineyard Street
- MRS. DOROTHY WATERS BEARD (1938), R.N.
Associate in Surgery Route 3, Hillsboro, N. C.
- JOSEPH WILLIS BEARD (1937), M.D.
Professor of Surgery in Charge of Experimental Surgery; Associate Professor of Virology Route 3, Hillsboro, N. C.
- ROLAND FREDERICK BECKER (1951), Ph.D.
Associate Professor of Anatomy 1010 Monmouth Avenue
- GEORGE K. BEEBE (1954), A.M.
Instructor in Romance Languages 315 Greenwood Drive
- GORDON EDWARD BELL (1954), M.B.A., C.P.A.
Assistant Professor of Economics 23 Maxwell Road, Glen Lennox
Chapel Hill, N. C.
- ‡WALTER R. BENSON (1952), M.D.
Associate in Pathology 947 Lambeth Circle, Poplar Apartments
- FREDERICK BERNHEIM (1930), Ph.D.
Professor of Pharmacology Woodridge Drive
- MRS. MARY LILIAS CHRISTIAN BERNHEIM (1930), Ph.D.
Associate Professor of Biochemistry Woodridge Drive
- MRS. LYDIA BERNSTEIN (1953), B.M., M.S.
Visiting Instructor in Music 103 North Street, Chapel Hill, N. C.
- EDWARD WILLARD BERRY (1936), Ph.D.
Professor of Geology 1003 North Gregson Street

* Absent on sabbatical leave, spring semester, 1954-55.

† Resigned, August 31, 1954.

‡ Resigned, June 30, 1955.

- MRS. HELEN SMITH BEVINGTON (1943), M.A.
Assistant Professor of English Box 94, Route 2, Guess Road
- MERLE MOWBRAY BEVINGTON (1942), Ph.D.
Professor of English Box 94, Route 2, Guess Road
- LUCIUS AURELIUS BIGELOW (1929), Ph.D.
Professor of Chemistry 131 Pinecrest Road
- WILLIAM DWIGHT BILLINGS (1952), Ph.D.
Associate Professor of Botany 708 Louise Circle, Poplar Apartments
- MARTIN LEE BLACK, JR. (1930), M.B.A., C.P.A.
Professor of Accounting 135 Pinecrest Road
- WILLIAM MAXWELL BLACKBURN (1926), Ph.D.
Professor of English 2101 Ward Street
- ROBERT LINCOLN BLAKE (1949)
Associate in Medical Art and Illustration 609 Ruby Street
- *ROBERT BLEKE (1953), Ph.D.
Lecturer in Psychology 1004 Carolina Avenue
- †MARTIN M. BLOCK (1952), Ph.D.
Assistant Professor of Physics and Research Associate
- HUGO LEANDER BLOMQUIST (1920), Ph.D.
Professor of Botany 922 Demerius Street
- BYRON M. BLOOR (1952), M.D.
Associate in Neurosurgery 1409 Broad Street
- JAMES ROBERT BLY (1949), M.S.
Assistant Professor of Physical Education 2001 Ruffin Street
- WILLIAM BRYAN BOLICH (1927), M.A., B.C.L.
Professor of Law 3724 Hope Valley Road, Hope Valley
- EDWARD CLAUDE BOLMEIER (1948), Ph.D.
Professor of Education 217 Faculty Apartments
- ALLAN HADLEY BONE (1944), M.M.
Associate Professor of Music 2314 West Club Boulevard
- CAZLYN GREEN BOOKHOUT (1935), Ph.D.
Professor of Zoology 1307 Alabama Avenue
- MRS. ELIZABETH CIRCLE BOOKHOUT (1932-43; 1945), M.S.
Associate Professor of Physical Education 1307 Alabama Avenue
- ALEXANDER W. BOONE (1952), M.D.
Assistant Professor of Urology 2027 Woodrow Street
- LLOYD J. BORSTELMANN (1953), Ph.D.
Assistant Professor of Psychology 305 Francis Street
- ‡ELBERT VICTOR BOWDEN (1952), M.A.
Instructor in Economics Chapel Hill Road
- GILMORE BOWERS (1953), B.S. in E.E.
Instructor in Electrical Engineering 2305 Prince Street
- W. EDGAR BOWERS, JR. (1952), Ph.D.
Instructor in English 2101 Ward Street
- FRANCIS EZRA BOWMAN (1945), Ph.D.
Associate Professor of English 2114 Woodrow Street

* Resigned, April 30, 1954.

† Absent on leave, 1954-55.

‡ Resigned, August 31, 1954.

BENJAMIN BOYCE (1950), Ph.D. <i>Professor of English</i>	1200 Dwire Place
*JOSEPH ALSTON BOYD, JR. (1952), M.D. <i>Assistant Professor of Radiology and Radiologist</i>	Hathaway Road
DAVID GILBERT BRADLEY (1949), Ph.D. <i>Assistant Professor of Undergraduate Religion</i>	707 Hudson Street
HAROLD L. BRADLEY (1940), B.S. <i>Assistant Professor of Physical Education</i>	1903 Washington Street
CHARLES KILGO BRADSHER (1939), Ph.D. <i>Associate Professor of Chemistry</i>	118 Pinecrest Road
JOHN SAEGER BRADWAY (1931), A.M., LL.B. <i>Professor of Law, and Director of the Legal Aid Clinic</i>	2621 Stuart Drive
RALPH J. D. BRAIBANTI (1953), Ph.D. <i>Associate Professor of Political Science</i>	2614 Stuart Drive
BERNARD BRESSLER (1954), M.D. <i>Associate Professor of Psychiatry</i>	Duke Hospital
ROBERTA FLORENCE BRINKLEY (1947), Ph.D. <i>Professor of English</i>	East Campus
ROBERT MAURICE BRODERSON (1952), M.F.A. <i>Instructor in Art Education and Studio, and Instructor in Department of Education</i>	4 Duke University Apartments Fifth and Markham Avenue
ELMER L. BROOKS (1953), M.A. <i>Instructor in English</i>	1005 South Duke Street
FRANCES CAMPBELL BROWN (1931), Ph.D. <i>Associate Professor of Chemistry</i>	1205 Dwire Place
IVAN WILLARD BROWN, JR. (1940-42; 1945), M.D. <i>Associate Professor of Surgery</i>	2314 Woodrow Street
WADE GILLIES BROWN (1947), A.B. <i>Lecturer in Sanitary Engineering</i>	1317 Arnette Avenue
†WILLIAM HUGH BROWNEE (1948), Th.M., Ph.D. <i>Assistant Professor of Old Testament</i>	2809 Fairview Road
‡PAUL ROBEY BRYAN, JR. (1951), M.M. <i>Assistant Professor of Music</i>	1 Duke University Apartments
EDWIN CONSTANT BRYSON (1931), LL.B. <i>Professor of Law</i>	818 Anderson Street
ROGER CONANT BUCK (1953), B.A., B.Phil. (Oxon.) <i>Assistant Professor of Philosophy</i>	1017½ Gloria Avenue
LOUIS J. BUDD (1952), Ph.D. <i>Assistant Professor of English</i>	1011½ Dacian Avenue
§MRS. JE HARNED BUFKIN (1949), R.N., R.R.L. <i>Assistant Professor of Medical Record Library Science</i>	2425 Perkins Road
EVERETT I. BUGG, JR. (1953), M.D. <i>Associate in Orthopaedics</i>	1544 Hermitage Court
EWALD W. BUSSE (1953), M.D. <i>Professor of Psychiatry and Chairman of the Department of Psychiatry</i>	2204 Erwin Road
WILLIAM L. BYRNE (1954), Ph.D. <i>Associate in Biochemistry</i>	Duke Hospital

* Resigned, September 15, 1954.

† Absent on sabbatical leave, fall semester, 1954-55.

‡ Absent on leave, 1954-55.

§ Absent on leave, May 15, 1954, to August 15, 1954.

- JASPER LAMAR CALLAWAY (1937), M.D.
Professor of Dermatology and Syphilology 828 Anderson Street
- EDMUND McCULLOUGH CAMERON (1926), A.B.
Director of Physical Education and Athletics 2818 Chelsea Circle, Hope Valley
- MARY BELL CAMPBELL (1952), R.N., B.S., M.A.A.N.A.
Instructor in Anesthesiology Hanes House
- MARY MILTON CAMPBELL (1953), R.N., B.S.N.E.
Instructor in Nursing Education 402 Buchanan Boulevard
- *RUTH F. CAMPBELL (1952), M.A.
Instructor in Romance Languages 913 Green Street
- JAMES CANNON (1919), A.M., Th.M., D.D.
Ivey Professor of the History of Religion and Missions 2022 Myrtle Drive
- LEONARD CARLITZ (1932), Ph.D.
Professor of Mathematics 2303 Cranford Road
- DAVID WILLIAMS CARPENTER (1929), Ph.D.
Professor of Physics 137 Pinecrest Road
- JOHN WINDER CARR, JR. (1926), Ph.D.
Professor of Education 926 Monmouth Avenue
- EBER MALCOLM CARROLL (1923), Ph.D.
James B. Duke Professor of History K1C University Apartments
- R. CHARMAN CARROLL (1944), R.N., A.B., M.D.
Assistant Professor of Psychiatry Duke Hospital
- BAYARD CARTER (1931), M.D.
Professor of Obstetrics and Gynecology 2111 Myrtle Drive
- †DONALD D. CARTER (1952), M.D.
Associate in Medicine 616 Ruby Street
- ALLAN MURRAY CARTTER (1952), Ph.D.
Assistant Professor of Economics and Research Associate 1208 Dwire Place
- WILLIAM H. CARTWRIGHT (1951), Ph.D.
Professor of Education 942 Lambeth Circle, Poplar Apartments
- MRS. HELEN KENNARD CASTELLANO (1947), M.A.
Instructor in Romance Languages 2511 Perkins Road
- JUAN RODRÍGUEZ CASTELLANO (1947), Doctor en Filosofía y Letras
Associate Professor of Romance Languages 2511 Perkins Road
- LEON EDWARD CHAIKEN (1952), B.S., M.F.
*Associate Professor of Forest Management and
 Assistant Director of the Forest* 2737 Dogwood Road
- JOHN V. CHAMBERLAIN (1954), A.M.
Visiting Instructor in Biblical Studies 28 Hawthorne Drive
- MRS. ROMA SAWYER CHEEK (1947), Ph.D.
Assistant Professor of Political Science 210 Cottage Lane, Chapel Hill, N. C.
- BENJAMIN GUY CHILDS (1924), M.A.
Professor of Education 1019 West Markham Avenue
- ELON HENRY CLARK (1934)
Professor of Medical Art and Illustration 1300 Oakland Avenue
- †KENNETH WILLIS CLARK (1931), Ph.D.
Professor of New Testament Language and Literature 1308 West Markham Avenue

* Resigned, August 31, 1954.

† Resigned, April 30, 1955.

‡ Absent on sabbatical leave, 1954-55.

- LELIA ROSS CLARK (1949), R.N., M.A.
Professor of Nursing Service Apartment 6M, Poplar Apartments
- *ROBERT W. CLARK (1950), A.B., Captain, U. S. Air Force
Assistant Professor of Air Science 1109 North Gregson Street
- ROMANE LEWIS CLARK (1953), Ph.D.
Assistant Professor of Philosophy Apartment 10
 Fifth and Markham Avenue
- MRS. MARGARET BERNARDINE AREY CLARKE (1953), R.N., B.S.
Instructor in Pediatric Nursing Apartment 4, 718 Underwood Avenue
- MAURICE H. CLARKE (1953), B.S., Lieutenant Colonel, U. S. Marine Corps
Associate Professor of Naval Science 214 Swift Avenue
- JAMES T. CLELAND (1945), M.A., Th.D., D.D.
*James B. Duke Professor of Preaching, and
 Preacher to the University* 2117 Myrtle Drive
- PAUL HIBBERT CLYDE (1937), Ph.D.
Professor of History 1311 Carolina Avenue
- LOUIS DAVID COHEN (1946), Ph.D.
*Associate Professor of Psychology, and Associate
 Professor of Medical Psychology* 913 Monmouth Avenue
- ROBERT TAYLOR COLE (1935), Ph.D.
James B. Duke Professor of Political Science 7 Sylvan Road
- †GEORGE H. COLLIER (1951), Ph.D.
Assistant Professor of Psychology 510 East Club Boulevard
- JOHN P. COLLINS (1948), M.D.
Associate Professor of Surgery Erwin Road
- JOEL G. COLTON (1947), Ph.D.
Assistant Professor of History 2801 Dogwood Road
- ROBERT MERLE COLVER (1953), Ed.D.
Assistant Professor of Education 900 Dacian Avenue
- NORMAN FRANCIS CONANT (1935), Ph.D.
*Professor of Mycology, and Associate
 Professor of Bacteriology* Route 1, Old Cornwallis Road
- RICHARD GRIGSBY CONNAR (1950), M.D.
Assistant Professor of Surgery Alastair Apartments, 300 Swift Avenue
- ‡ROBERT HOWE CONNERY (1949), Ph.D.
Professor of Political Science 906 Buchanan Boulevard
- THOMAS HOWARD CORDLE (1950), Ph.D.
Assistant Professor of Romance Languages 2420 Perkins Road
- §LEE CORDREY (1954), M.D.
Associate in Orthopaedics
- **ALFRED NIXON COSTNER (1950), M.D.
Associate in Ophthalmology 1204 Ruffin Street
- MARTHA LEE COVINGTON (1954), B.S.N.
Instructor in Nursing Arts Apartment S2, 810 Demerius Street
- ROBERT CALVIN COX (1942), M.A.
Assistant Professor of Physical Education 1826 Guess Road
- ROBERT LAWRENCE CRAIG (1938), M.D.
Associate in Psychiatry Duke Hospital

* Resigned, August 31, 1954.

† Resigned, January 31, 1955.

‡ Absent on leave, fall semester, 1954-55.

§ June 1, 1954, to September 28, 1954.

** Absent on leave, August 1, 1954, to February 1, 1955. Resigned, January 31, 1955.

- ROBERT NOWELL CREADICK (1946), M.D.
Associate Professor of Obstetrics and Gynecology 1200 Anderson Street
- *MASON CRUM (1930), Ph.D., Litt.D.
Professor of Biblical Literature 912 Anderson Street
- †JOHN SHELTON CURTISS (1945), Ph.D.
Professor of History Route 2, Box 95, Guess Road
- ROBERT EARL CUSHMAN (1945), B.D., Ph.D.
Professor of Systematic Theology 130 Pinecrest Road
- BINGHAM DAI (1943), Ph.D.
Professor of Psychology, and Professor of Medical Psychology 2404 Perkins Road
- BOYD LEE DANIELS (1952), B.D.
Instructor in Undergraduate Religion 330 Clark Street
- WILLIAM DAVID DAVIES (1950), B.D., D.D.
Professor of Biblical Theology 810 Second Street
- GIFFORD DAVIS (1930), Ph.D.
Professor of Romance Languages 2248 Cranford Road
- THELMA ELIZABETH DAVIS (1954), R.N., B.S.N.E.
Instructor in Obstetric Nursing 305 Monmouth Avenue
- MRS. ATALA THAYER SCUDDER DAVISON (1942), M.D.
Associate in Pediatrics Fairways, Hope Valley
- WILBURT CORNELL DAVISON (1927), M.D., D.Sc., LL.D.
James B. Duke Professor of Pediatrics Fairways, Hope Valley
- HOWARD W. DAWSON (1953), B.S., Lieutenant Commander, U. S. Navy
Assistant Professor of Naval Science 909 Arnette Avenue
- ALEXANDER DECONDE (1952), Ph.D.
Assistant Professor of History 1515 Woodburn Road
- JOHN ESSARY DEES (1939), M.D.
Professor of Urology 413 Carolina Circle
- MRS. SUSAN COONS DEES (1939), M.D.
Associate Professor of Pediatrics and Allergy 413 Carolina Circle
- WILLIAM P. DEISS, JR. (1954), M.D.
Assistant Professor of Medicine and Biochemistry, and Director of Radioisotope Laboratory, Veterans Hospital Veterans Hospital
- WILLIAM J. A. DEMARIA (1951), M.D.
Assistant Professor of Pediatrics 1501 Woodburn Road
- JEAN-JACQUES DEMOREST (1948), Ph.D.
Associate Professor of Romance Languages 2712 Circle Drive
- WILLIAM ERNEST DETURK (1949), M.D., Ph.D.
Associate Professor of Pharmacology 2513 Pickett Road
- FRANK TRAVER DEVYVER (1935), Ph.D.
Professor of Economics 8 Sylvan Road
- DONALD J. DEWEY (1950), M.A.
Assistant Professor of Economics 611 Watts Street
- MACDONALD DICK (1932), M.D.
Assistant Professor of Physiology and Pharmacology, and Associate in Medicine 3005 Norwich Way, Hope Valley
- ROBERT L. DICKENS (1949), M.S., C.P.A.
Assistant Professor of Accounting 2024 Sprunt Street

* Absent on sabbatical leave, spring semester, 1954-55.

† Absent on sabbatical leave, 1954-55.

- RUSSELL LESLIE DICKS (1949), B.D., D.D., D.Litt.
*Associate Professor of Pastoral Care and
 Chaplain to Duke Hospital* 2308 Prince Street
- MRS. MARIE-THERESE LINIERE DOW (1934), L. ès L., M.A.
Instructor in Romance Languages 2252 Cranford Road
- NEAL DOW (1934), Ph.D.
Associate Professor of Romance Languages 2252 Cranford Road
- ANTHONY CHARLES DRAGO (1953), B.S. in P.E.
Instructor in Physical Education 1003 Lamond Avenue
- FRANCIS GEORGE DRESSEL (1929), Ph.D.
Professor of Mathematics 309 Francis Street
- KENNETH LINDSAY DUKE (1940), Ph.D.
Associate Professor of Anatomy 701 West Club Boulevard
- ROBERT F. DURDEN (1952), Ph.D.
Instructor in History 2812 Erwin Road, Poplar Apartments
- GEORGE SHARP EADIE (1930), Ph.D.
Professor of Physiology and Pharmacology 3433 Dover Road, Hope Valley
- WATT WEEMS EAGLE (1930), Ph.D.
Professor of Otolaryngology 804 Anderson Street
- MRS. ELEANOR BEAMER EASLEY (1934), M.D.
Associate in Obstetrics and Gynecology Guess Road
- *HOWARD EASLEY (1930), Ph.D.
Associate Professor of Education Guess Road
- RUTH BUCHANAN EDDY (1952), M.S.
Assistant Professor of Physical Education 213 Faculty Apartments
- FRANK NICHOLAS EGERTON (1945), A.M., E.E.
Associate Professor of Electrical Engineering 411 North Gregson Street
- WILLIAM WHITFIELD ELLIOTT (1925), Ph.D.
Professor of Mathematics Hillandale Road
- LEON HUBBARD ELLIS (1947), Ph.D.
Lecturer in Political Science 2428 Perkins Road
- ERNEST ELSEVIER (1950), M.S. in M.E.
Assistant Professor of Mechanical Engineering Route 1, Hillsboro, N. C.
- †JOHN RICHARD EMLET (1952), M.D.
Associate in Surgery 2521 Pickett Road
- FRANK LIBMAN ENGEL (1947), M.D.
*Associate Professor of Medicine and
 Assistant Professor of Physiology* 1302 Oakland Avenue
- E. HARVEY ESTES (1953), M.D.
Associate in Medicine 8 Meadowbrook Avenue
- JOHN WENDELL EVERETT (1932), Ph.D.
Professor of Anatomy 2605 University Drive
- LEONARD WILLIAM FABIAN (1954), M.D.
Assistant Professor of Anesthesiology Duke Hospital
- WILLIAM MARTIN FAIRBANK (1952), Ph.D.
Associate Professor of Physics 2016 Perishing Street
- CARMEN M. FALCONE (1946), M.A.
Assistant Professor of Physical Education D-1A University Apartments
- JOHN MORTON FEIN (1950), Ph.D.
Assistant Professor of Romance Languages 2742 Circle Drive

* Absent on leave, spring semester, 1954-55.

† Resigned, June 30, 1954.

- *ARTHUR BOWLES FERGUSON (1939), Ph.D.
Associate Professor of History Route 2, Guess Road
- GEORGE BURTON FERGUSON (1937), M.D.
Associate in Bronchoscapy 3938 Dover Road, Hope Valley
- BERNARD F. FETTER (1951), M.D.
Associate in Pathology 2411 Pickett Road
- EDGAR BEAUREGARDE FISHER (1953), B.D.
Lecturer in Church Administration 2000 Cedar Street
- WILEY DAVIS FORBUS (1930), M.D.
Professor of Pathology 3309 Devon Road, Hope Valley
- JOEL CLARENCE FORD, JR. (1953), B.S., Captain, U. S. Navy
Professor of Naval Science 2101 Myrtle Drive
- †LESTER R. FORD, JR. (1953), Ph.B., S.M., Ph.D.
Research Instructor in Mathematics 9 Fifth and Markham Avenue
- DURWOOD ANDREW FOSTER (1954), B.D.
Assistant Professor of the History and
Philosophy of Religion Apartment 18, Alastair Court
- JOHN ALVIS FOWLER (1953), M.D.
Assistant Professor of Psychiatry 1-20-A Glen Lennox Apartments,
Chapel Hill, N. C.
- ‡CARLYLE JAMES FRAREY (1952), M.S.
Assistant Professor in the Faculty of Arts and Sciences 819 Demerius Street
- RUSSELL A. FRASER (1952), Ph.D.
Instructor in English 908 Shepherd Street
- CHARLES DARBY FULTON, JR. (1950), Sc.D.
Assistant Professor of Mechanical Engineering 1507 Pettigrew Street
- WILLIAM J. FURBISH (1954), B.S., M.A.
Instructor in Geology 1821 Washington Street
- THOMAS MUIR GALLIE, JR. (1954), Ph.D.
Research Instructor in Mathematics 905 Exum Street
- CLARENCE ELLSWORTH GARDNER, JR. (1930), M.D., D.Sc.
Professor of Surgery 3106 Devon Road, Hope Valley
- WILLIAM HENRY GARDNER, JR. (1953), B.S. in C.E., M. Engg.
Assistant Professor of Civil Engineering 2108 Cole Road
- NORMAN GARMEZY (1950), Ph.D.
Associate Professor of Psychology 3423 Hope Valley Road
- §OTTO H. GAUER (1953), M.D.
Associate Professor of Physiology and Pharmacology Route 1, Box 113
Chapel Hill, N. C.
- W. SCOTT GEHMAN, JR. (1954), Ph.D.
Assistant Professor of Education 420 Carolina Circle
- NICHOLAS G. GEORGAIDE (1951), D.D.S., M.D.
Assistant Professor of Plastic Surgery 2417 Bruton Road
- JOHN JAY GERGEN (1936), Ph.D.
Professor of Mathematics 2803 Nation Avenue
- ALLAN H. GILBERT (1920), Ph.D.
Professor of English 503 Compton Place
- GEORGE G. GLOCKLER (1952), Ph.D.
Visiting Lecturer in Chemistry 121 Pinecrest Road

* Absent on sabbatical leave, 1954-55.

† Resigned, August 31, 1954.

‡ Resigned, October 31, 1954.

§ Absent on leave, March 1 to June 30, 1955.

- *CLARENCE GOHDES (1930), Ph.D.
Professor of English 2737 Circle Drive
- JOSEPH LEONARD GOLDNER (1950), M.D.
Associate Professor of Orthopaedics 906 Demerius Street
- JEWETT GOLDSMITH (1949), M.D.
Assistant Professor of Psychiatry 918 Monmouth Avenue
- †SANFORD GOLDSTONE (1953), Ph.D.
*Associate in Clinical Psychology in the
Department of Psychiatry and Lecturer in
the Department of Psychology* 894 Louise Circle, Poplar Apartments
- MCCHESNEY GOODALL (1954), M.D., Ph.D.
Visiting Associate Professor of Physiology Duke Hospital
- WILLIAM LEWIS GORDON (1952), Ph.D.
Instructor in Mathematics 13 Fifth and Markham Avenue
- WALTER GORDY (1946), Ph.D.
Professor of Physics 2521 Perkins Road
- RICHARD BABSON GRANT (1952), Ph.D.
Instructor in Romance Languages 1016 Wells Street
- IRVING EMERY GRAY (1930), Ph.D.
Professor of Zoology 124 Pinecrest Road
- ‡FLETCHER M. GREEN (1953), Ph.D.
Lecturer in History University of North Carolina
Chapel Hill, N. C.
- EUGENE GREULING (1948), Ph.D.
Associate Professor of Physics 2414 Perkins Road
- KEITH SANFORD GRIMSON (1930-42; 1945), M.D.
Professor of Surgery 3313 Devon Road, Hope Valley
- PAUL MAGNUS GROSS (1919), Ph.D.
William Howell Pegram Professor of Chemistry 3816 Dover Road, Hope Valley
- JULIA REBECCA GROUT (1924), M.S.
Professor of Physical Education 804 Fourth Street
- WARREN J. GUSTUS (1954), Ph.D.
Instructor in Economics 818 Buchanan Boulevard
- NORMAN GUTTMAN (1951), Ph.D.
Assistant Professor of Psychology 854 Louise Circle, Poplar Apartments
- WILLY HAEBERLI (1954), Ph.D.
Visiting Assistant Professor of Physics Apartment B-1
Westover Park Apartments
- HOWARD N. HAINES (1943), B.S.
Visiting Assistant Professor of Civil Engineering 2307 Club Boulevard
- FRANK GREGORY HALL (1926-42; 1945), Ph.D.
Professor of Physiology and Pharmacology 122 Pinecrest Road
- HELEN ELIZABETH HALL (1954), M.D.
Associate in Anesthesiology 402 Buchanan Boulevard
- HUGH MARSHALL HALL (1952), Ph.D.
Instructor in Political Science 7 Duke University Apartments
- LOUISE HALL (1931), S.B. Arch., Ph.D.
Associate Professor of Architecture Box 6636, College Station
- JOHN HAMILTON HALLOWELL (1942), Ph.D.
Professor of Political Science 2709 Augusta Drive
- EDWIN CROWELL HAMBLIN (1931), M.D.
*Associate Professor of Obstetrics and Gynecology,
and Professor of Endocrinology* 810 Forest Hills Boulevard

* Absent on sabbatical leave, spring semester, 1954-55.

† Resigned, January 15, 1955.

‡ Spring semester, 1953-54.

- WILLIAM BASKERVILLE HAMILTON (1936), Ph.D.
Professor of History 2256 Cranford Road
- PHILIP HANDLER (1939), Ph.D.
Professor of Biochemistry and Nutrition 2529 Perkins Road
- JOHN KENNEDY HANKS (1954), M.A.
Assistant Professor of Music 820 West Knox Street
- FRANK ALLAN HANNA (1948), Ph.D.
Professor of Economics 2239 Cranford Road
- OSCAR CARL EDVARD HANSEN-PRÜSS (1930), M.D. 3303 Surrey Road, Hope Valley
Professor of Medicine in Charge of Clinical Microscopy
- EARL THOMAS HANSON (1946), Ph.D.
Assistant Professor of Political Science 613 Swift Avenue
- ELLWOOD SCOTT HARRAR (1936), Ph.D.
Professor of Wood Technology 2228 Cranford Road
- JEROME SYLVAN HARRIS (1936), M.D.
Professor of Pediatrics, and
Associate Professor of Biochemistry 1007 Rosehill Avenue
- FRANCIS PARKS HARRISON (1947), Ph.D.
Assistant Professor of Physical Education 2722 Circle Drive
- HORNELL NORRIS HART (1938), Ph.D.
Professor of Sociology 2535 Perkins Road
- JULIAN DERYL HART (1930), M.D.
Professor of Surgery Route 1, Duke University Road
- DOUGLAS HARTLE (1954), M.A.
Instructor in Economics 1004 Carolina Avenue
- *GEORGE CORBIN HARWELL (1935), Ph.D.
Associate Professor of English 2115 Wilson Street
- *CHARLES ROY HAUSER (1929), Ph.D.
Professor of Chemistry 1020 Rosehill Avenue
- CAROLINE ELIZABETH HELMICK (1949), M.D.
Associate in Preventive Medicine and Public Health, and
Director of Student Health, Woman's College East Campus
- JAMES PAISLEY HENDRIX (1938), M.D.
Associate Professor of Medicine and Therapeutics 144 Pinecrest Road
- STEPHEN DUNCAN HERON, JR. (1950), M.S.
Assistant Professor of Geology 1506 Echo Road
- DUNCAN CHARTERIS HETHERINGTON (1930), Ph.D., M.D.
Professor of Anatomy K3B University Apartments
- ALBERT HEYMAN (1953), M.D.
Associate Professor of Medicine 910 Arrowhead Road
Chapel Hill, N. C.
- JOHN BAMBER HICKAM (1947), M.D.
Associate Professor of Medicine 1020 Sycamore Drive
- ARTHUR OWEN HICKSON (1929), Ph.D.
Associate Professor of Mathematics Guess Road, Box 27
West Durham Station
- DOUGLAS GREENWOOD HILL (1931), Ph.D.
Professor of Chemistry Box 275, Route 2, St. Mary's Road
- MARCUS EDWIN HOBBS (1935), Ph.D.
Professor of Chemistry 115 Pinecrest Road

* Absent on sabbatical leave, spring semester, 1954-55.

- JOHN HERBERT HODGES (1954), A.M.
Instructor in Mathematics Box 1139, Men's Graduate Center
- LESLIE BENJAMIN HOHMAN (1946), M.D.
Professor of Psychiatry 1520 Hermitage Court
- *BERNARD CLEVELAND HOLLAND (1948), M.D.
Associate in Medicine 705 Louise Circle, Poplar Apartments
- RAY WALTER HOLLAND (1947), M.S. in M.E.
Assistant Professor of Mechanical Engineering 2528 Glendale Avenue
- IRVING BRINTON HOLLEY, JR. (1947), Ph.D.
Assistant Professor of History 6 Duke University Apartments
- CHARLES M. HOLMES (1953), M.A.
Instructor in English 903 Shepherd Street
- FRANCES VIRGINIA LEE HOLTON (1947), M.A.
Assistant Professor of Physical Education 407 Erwin Apartments
- CALVIN BRYCE HOOVER (1925), Ph.D., Litt.D.
James B. Duke Professor of Economics 1702 Duke University Road
- †EDWARD CHARLES HORN (1946), Ph.D.
Assistant Professor of Zoology 2509 Cascadilla Street
- ‡AUBREY THOMAS HORNSBY (1953), M.D.
Assistant Professor of Radiology, and Chief of the Radiological Department, Veterans Hospital 420 Carolina Circle
- JOHN CHASE HOWELL (1954), M.A.
Instructor in Sociology Box 4463, Duke Station
- WAYLAND ELROY HULL (1953), Ph.D.
Assistant Professor of Physiology Apartment N-1, 819 Demerius Street
- HAROLD J. HUMM (1954), Ph.D.
Associate Professor of Botany 912 Monmouth Avenue
- DON DOUGAN HUMPHREY (1945), Ph.D.
Professor of Economics 2802 Legion Avenue
- MRS. WANDA SANBORN HUNTER (1947), Ph.D.
Associate Professor of Zoology 901 Mangum Street
- THELMA MARGUERITE INGLES (1949), R.N., M.A.
Associate Professor of Nursing Education; Director, Division of Nursing Education 1412 North Duke Street
- WILLIAM HENRY IRVING (1936), B.A. (Oxon.), Ph.D.
Professor of English 2707 Legion Avenue
- THOMAS K. IVES (1954), B.S., Lieutenant, U. S. Navy
Assistant Professor of Naval Science 2 Willwood Apartments
Pratt Street
- ANN MADELINE JACOBANSKY (1953), R.N., B.S.N.E., M.Ed.
Professor of Nursing Westover Park Apartments
- MERLE E. JACOBS (1954), Ph.D.
Temporary Instructor in Zoology 801 Third Street
- §MARIANNA DUNCAN JENKINS (1948), Ph.D.
Associate Professor of Art 1026 Minerva Avenue
- HOWARD EIKENBERRY JENSEN (1931), B.D., Ph.D.
Professor of Sociology 143 Pinecrest Road

* Resigned, June 30, 1954.

† Absent on sabbatical leave, spring semester, 1954-55.

‡ Resigned, April 30, 1955.

§ Absent on leave, 1954-55.

- WALLACE NORUP JENSEN (1953), M.D.
Assistant Professor of Medicine L-26-D, Glen Lennox, Chapel Hill, N. C.
- FREDERICK CHARLES JOERG (1947), M.B.A.
Associate Professor of Economics 1400 Oakland Avenue
- DAVID SPIRES JOHNSON (1953), M.D.
Associate in Pathology Apartment 10-C, 2904 Erwin Road
- TERRY W. JOHNSON, JR. (1954), Ph.D.
Assistant Professor of Botany 825 Louise Circle, Poplar Apartments
- EDWARD ELLSWORTH JONES (1953), Ph.D.
Assistant Professor of Psychology and Associate in Clinical Psychology in the Department of Psychiatry 869 Louise Circle, Poplar Apartments
- ARCHIBALD CURRIE JORDAN (1925), M.A.
Assistant Professor of English 147 Pinecrest Road
- BRADY RIMBEY JORDAN (1927), Ph.D.
Professor of Romance Languages 117 Pinecrest Road
- HELEN LOUISE KAISER (1943), R.P.T.T.
Assistant Professor of Physical Rehabilitation 804 Fourth Street
- WILLIAM ARTHUR KALE (1952), B.D., D.D.
Professor of Christian Education 500 East Markham Avenue
- HARRY I. KALISH (1953), Ph.D.
Visiting Assistant Professor of Psychology 926 Lambeth Circle
- HENRY KAMIN (1948), Ph.D.
Associate in Biochemistry J3C University Apartments
- T. C. KAO (1954), M.D.
Visiting Professor of Surgery Duke Hospital
- WALTER KEMPNER (1934), M.D.
Professor of Medicine 1505 Virginia Avenue
- *HAYWARD KENISTON (1952), Ph.D.
Visiting Lecturer in Romance Languages 214 Faculty Apartments
- VAN LESLIE KENYON, JR. (1945), M.M.E.
Associate Professor of Mechanical Engineering Route 2, Hillsboro, N. C.
- MRS. NANCY PEELER KEPPEL (1953), B.A.
Instructor in Physical Education 2729 Brown Avenue, Poplar Apartments
- GRACE PARDRIDGE KERBY (1947), M.D.
Assistant Professor of Medicine 707 Louise Circle, Poplar Apartments
- †RUPERT KERR (1954), M.D.
Associate in Obstetrics and Gynecology Duke Hospital
- EILEEN DOROTHY KIERNAN (1952), R.N., B.S.N.E.
Instructor in Nursing of Prematures 920 Second Street
- GREGORY A. KIMBLE (1952), Ph.D.
Associate Professor of Psychology 1808 Hillcrest Drive
- WILLIAM KLENZ (1947), M.A.
Assistant Professor of Music 15 Alastair Court
- ROBERT J. KNIGHT, JR. (1952), B.S., Colonel, U. S. Air Force
Professor of Air Science and Tactics 2107 Wilson Street
- LOIS NINA KNOWLES (1953), R.N., B.S.N.
Instructor in Nursing Arts 2201 Woodrow Street
- RUTH M. KOCH (1953), M.S.
Assistant Professor of Nursing 224-226 Hanes House
- SIGMUND KOCH (1942-47; 1948), Ph.D.
Professor of Psychology Psychology Department

* Resigned, August 31, 1954.

† January 1 to March 31, 1955.

- J. FRANK KOENIG (1954), M.S. in E.E.
Assistant Professor of Electrical Engineering 1700 Duke University Road
- SEYMOUR KORKES (1953), M.D.
Associate Professor of Biochemistry 2511 Pickett Road
- CLARENCE FERDINAND KORSTIAN (1930), Ph.D.
Professor of Silviculture 4 Sylvan Road
- BARNET KOTTLER (1953), Ph.D.
Instructor in English 521 East Club Boulevard
- *PAUL JACKSON KRAMER (1931), Ph.D.
James B. Duke Professor of Botany 2251 Cranford Road
- ROBERT KRAMER (1947), LL.B.
Professor of Law 108 Pinecrest Road
- EDWARD KREADY KRAYBILL (1939), M.S.E.
Associate Professor of Electrical Engineering 2726 Circle Drive
- WILLIAM R. KRIGBAUM (1952), Ph.D.
Assistant Professor of Chemistry 2015 Woodland Drive
- †SOPHIA LOUISE KROK (1953), R.N., M.S.
Instructor in Medical Nursing Apartment C, 2209 Elder Street
- ‡ROBERT JOSEPH KUBISZEWSKI (1952), B.N.S., Lieutenant, U. S. Navy
Assistant Professor of Naval Science 814 Green Street
- GEORGE FREDERICK KUDER (1948), Ph.D.
Professor of Psychology 2516 Perkins Road
- EDWARD CHARLES KUNKLE (1948), M.D.
Associate Professor of Medicine in Charge of Neurology 2525 Perkins Road
- WESTON LABARRE (1946), Ph.D.
Associate Professor of Anthropology 1311 Alabama Avenue
- CREIGHTON LACY (1953), B.D., Ph.D.
Assistant Professor of Missions and Social Ethics 2009 Wa Wa Avenue
- CHARLES EARL LANDON (1926), Ph.D.
Professor of Economics 1514 Edgevale Road
- WILLIAM GUERRANT LANE (1952), Ph.D.
Instructor in English 1019 Dacian Avenue
- JOHN TATE LANNING (1927), Ph.D.
Professor of History 3007 Surrey Road, Hope Valley
- JOHN E. LARSH, JR. (1943), Sc.D.
Associate in Parasitology Duke Hospital
- ELVIN REMUS LATTY (1937), J.D., J.Sc.D.
Professor of Law 3620 Hathaway Road, Hope Valley
- DUNBAR LAWSON (1953), B.S., Lieutenant Commander, U. S. Navy
Assistant Professor of Naval Science 1012 Arnette Avenue
- BENJAMIN FRANKLIN LEMERT (1930), Ph.D.
Associate Professor of Economics 123 Pinecrest Road
- HAROLD WALTER LEWIS (1949), Ph.D.
Assistant Professor of Physics 2307 Sprunt Street
- MARTHA MODENA LEWIS (1933), M.A.
Associate Professor of Physical Education 407 Erwin Apartments

* Absent on sabbatical leave, spring semester, 1954-55.

† Resigned May 31, 1954.

‡ Resigned, August 31, 1954.

- RALPH ELTON LEWIS (1941), M.S. in M.E.
Assistant Professor of General Engineering 1401 Alabama Avenue
- CHARLES HARRIS LIVENGOD, JR. (1946), LL.B.
Professor of Law 2804 Chelsea Circle, Hope Valley
- GEORGE TOWNSEND LODGE (1953), Ph.D.
Associate Professor of Psychology 804 Third Street
- ARTHUR HILL LONDON, JR. (1932), M.D.
Associate in Pediatrics 306 South Gregson Street
- HANS LÖWENBACH (1940), M.D.
Professor of Psychiatry and Physiology Box 79, Route 3, Durham, N. C.
- CHARLES LUCIEN BAKER LOWNDES (1934), S.J.D.
James B. Duke Professor of Law 2016 Club Boulevard
- OSKAR HELGE LUNDHOLM (1930), Ph.D.
Professor of Psychology 803 Second Street
- WILLIAM S. LYNN, JR. (1954), M.D.
Associate in Medicine Duke Hospital
- *JOSEPH HOWARD MCALISTER (1953), M.D.
Associate in Radiology 2759½ Guess Road
- ANGUS M. MCBRYDE (1931), M.D.
Associate Professor of Pediatrics 410 East Forest Hills Boulevard
- †JOHN P. MCBRYDE (1950), M.A., Lieutenant Colonel, U. S. Air Force
Associate Professor of Air Science 2524 State Street
- MRS. PAULINE WAYNE McCASKILL (1954), B.S.N.E.
Instructor in Medical Nursing 2611 Guess Road
- JOSEPH ADOLPHUS MCCLAIN, JR. (1940), J.S.D., LL.D.
Professor of Law 2021 Myrtle Drive
- ‡GELOLO MCHUGH (1946), Ph.D.
Assistant Professor of Psychology 1413 Watts Street
- LIONEL WILFRED MCKENZIE, JR. (1948), B.Litt. (Oxon.), M.A.
Associate Professor of Economics 1811 Forest Road
- JONATHAN COLLINS MCLENDON (1952), Ph.D.
Associate Professor of Education 944 Lambeth Circle, Poplar Apartments
- LEWIS J. McNURLEN (1952), M.A.
Instructor in Sociology 1818 Glendale Avenue
- §SAMUEL D. MCPHERSON, JR. (1949), M.D.
Associate in Ophthalmology 29 Oak Drive
- IAN O. MACCONOCHIE (1953), B.S. in M.E.
Instructor in Mechanical Engineering 702 Vickers Avenue
- DOUGLAS BLOUNT MAGGS (1930), J.D., S.J.D.
Professor of Law 3940 Dover Road, Hope Valley
- JOHN MCCLELLAN MAJOR (1953), Ph.D.
Instructor in English 1102 Monmouth Avenue
- ALAN KREBS MANCHESTER (1929), Ph.D.
Professor of History 2016 Myrtle Drive
- JETHRO OATES MANLY (1952), B.S.
Instructor in Botany 907 Lambeth Circle, Poplar Apartments

* Resigned, June 30, 1954.

† Resigned, July 31, 1954.

‡ Absent on sabbatical leave, fall semester, 1954-55.

§ Absent on leave, 1954-55.

- EVERETT JAMES MANN (1950), M.B.A., C.P.A.
Associate Professor of Accounting 1712 Roxboro Road
- CLYDE LEONARD MANSCHRECK (1954), B.D., Ph.D.
Assistant Professor of Undergraduate Religion Apartment C-2
808 Green Street
- GEORGE MARGOLIS (1947), M.D.
Professor of Pathology 2417 Perkins Road
- JOSEPH ELDRIDGE MARKEE (1943), Ph.D.
James B. Duke Professor of Anatomy 1015 Demerius Street
- SIDNEY DAVID MARKMAN (1947), Ph.D.
Associate Professor of Art History and Archaeology 919 Urban Avenue
- MRS. ELSIE W. MARTIN (1930), M.S.
Professor of Dietetics 206 Faculty Apartments
- MRS. RUTH CAMPBELL MARTIN (1944), M.D.
Associate Professor of Anesthesiology and Assistant Anesthetist 113 Pinecrest Road
- SAMUEL PRESTON MARTIN (1949), M.D.
Associate Professor of Medicine and Assistant Professor of Bacteriology 113 Pinecrest Road
- †MRS. JAY DAVIS MASSEY (1952), B.S., M.A.
Instructor in Physical Education 1609 Dexter Street
- LUCY ETHELYN MASSEY (1949), R.N., M.A.
Assistant Professor of Public Health Nursing Dawson Road, Chapel Hill, N. C.
- ‡FRANCIS WYNNE MASTERS (1952), M.D.
Associate in Plastic Surgery 2305 Elder Street
- WILLIAM CARY MAXWELL (1930), Ph.D.
Associate Professor of German 142 Pinecrest Road
- §OTTO MEIER, JR. (1934), M.S., E.E.
Associate Professor of Electrical Engineering 916 Monmouth Avenue
- ELIJAH EUGENE MENEFFEE, JR. (1940), M.D.
Associate Professor of Medicine 2205 Cranford Road
- †MRS. ANN REID MERZBACHER (1952), A.B.
Instructor in Mathematics Box 801, Chapel Hill, N. C.
- M. VICTOR MICHALAK (1950), A.M.
Instructor in English 838 Louise Circle, Poplar Apartments
- MARGARET EMMA MILLER (1954), R.N., B.S.N.E.
Instructor in Surgical Nursing 2113 Englewood Avenue
- **FRANK KIRBY MITCHELL (1926), A.M.
Associate Professor of English 619 Swift Avenue
- ROBERT JOHN MONTFORT (1940), B.A.
Assistant Professor of Physical Education 3300 Cole Mill Road
- CLARENCE L. MORRISON (1954), B.S. in Business Administration,
Major, U. S. Marine Corps
Assistant Professor of Naval Science 923 Dacian Avenue
- ELIZABETH MOSES (1954), R.N., B.S.N.E., M.Ed.
Assistant Professor of Nursing Faculty Apartments
- EARL GEORGE MUELLER (1945), B.M., M.A., M.F.A.
Associate Professor of Art 1212 Virginia Avenue
- MRS. JULIA WILKINSON MUELLER (1939-41; 1946), M.A.
Assistant Professor of Music 1212 Virginia Avenue
- †MARY FRANCES MULDROW (1952), Ph.D.
Instructor in Romance Languages 1507 West Pettigrew Street

* Absent on leave, 1954-55.

† Resigned, August 31, 1954.

‡ Resigned, June 30, 1954.

§ Absent on sabbatical leave, fall semester, 1954-55.

** Absent on leave, spring semester, 1954-55.

- ROBERT J. MURPHY, JR. (1950), M.D.
Associate in Pediatrics Chapel Hill, N. C.
- HIRAM EARL MYERS (1926), S.T.M., D.D.
Professor of Biblical Literature 141 Pinecrest Road
- JACK DUANE MYERS (1947), M.D.
Associate Professor of Medicine 713 Anderson Street
- JAMES B. MYERS (1952), A.B., Major, U. S. Air Force
Assistant Professor of Air Science Route 5, Box 175
Duke Homestead Road
- MRS. JESSICA H. LEWIS MYERS (1950), M.D.
Associate in Medicine 713 Anderson Street
- GEORGE W. NACE (1951), Ph.D.
Assistant Professor of Zoology 2021 Pershing Street
- AUBREY WILLARD NAYLOR (1952), Ph.D.
Associate Professor of Botany 881 Louise Circle, Poplar Apartments
- GLENN ROBERT NEGLEY (1946), Ph.D.
Professor of Philosophy 1700 Shawnee Street
- ERNEST WILLIAM NELSON (1926), Ph.D.
Associate Professor of History 939 Lambeth Circle, Poplar Apartments
- HENRY WINSTON NEWSON (1948), Ph.D.
Professor of Physics 1111 North Gregson Street
- WILLIAM MCNEAL NICHOLSON (1935), M.D.
*Professor of Medicine in Charge of Postgraduate
Education, and Disease of Metabolism* 824 Anderson Street
- WALTER MCKINLEY NIELSON (1925), Ph.D.
James B. Duke Professor of Physics 139 Pinecrest Road
- LOTHAR WOLFGANG NORDHEIM (1937), Ph.D., Sc.D.
Professor of Physics 2255 Cranford Road
- *WILLIAM K. NOWILL (1951), M.D.
Assistant Professor of Anesthesiology 2604 Glendale Avenue
- GUY LEARY ODOM (1943), M.D.
Professor of Neurosurgery 2812 Chelsea Circle, Hope Valley
- HOWARD T. ODUM (1954), Ph.D.
Assistant Professor of Zoology Apartment 1, Carolee Apartments
- †FRANK ROLAND OLSON (1953), M.A.
Instructor in Mathematics 907 Second Street
- JOHN BURWELL OLIVER (1952), Ph.D.
Instructor in History Box 4360, Duke Station
- HENRY JOHN OOSTING (1932), Ph.D.
Professor of Botany 2642 University Drive
- EDWARD STEWART ORGAIN (1934), M.D.
Professor of Medicine 3321 Devon Road, Hope Valley
- RODERICK B. ORMANDY (1953), M.A.
Assistant Professor of Medical Speech Pathology 2906 Erwin Road
- ROBERT TAPPAN OSBORN (1954), B.D.
Instructor in Undergraduate Religion 1922 Ward Street
- HARRY ASHTON OWEN (1951), B.E.E., M.S.E.
Assistant Professor of Electrical Engineering Hillandale Road

* Resigned, June 30, 1954.

† Resigned, August 31, 1954.

- MRS. ANNA COOPER PAINTER (1954), R.N., B.S.N.E.
Instructor in Pediatric Nursing 3000 Chapel Hill Road
- AUBREY EDWIN PALMER (1944), B.S. in E., C.E.
Associate Professor of Civil Engineering 2519 State Street
- HAROLD TALBOT PARKER (1939), Ph.D.
Associate Professor of History 12 Glenn Apartments, Dacian Avenue
- JOSEPH B. PARKER, JR. (1953), M.D.
*Associate Professor of Psychiatry, and
 Chief of Psychiatry at Veterans Hospital* 2921 Horton Road
- ROY PARKER (1954), M.D.
Assistant Professor of Obstetrics and Gynecology Duke Hospital
- OSCAR A. PARSONS (1954), Ph.D.
*Assistant Professor of Psychology and
 Associate in Medical Psychology* 2204 Erwin Road
- JOEL FRANCIS PASCHAL (1954), LL.B., Ph.D.
Associate Professor of Law 1103 Anderson Street
- RANSOM RATHBONE PATRICK (1954), B.A., M.F.A.
Professor of Aesthetics and Art 403 Jackson Street
- *SIMMONS ISLER PATRICK (1954), M.D.
Associate in Radiology K-2-D University Apartments
- RANDOLPH F. PATTERSON (1953), B.S., Lieutenant (j.g.), U. S. Navy
Assistant Professor of Naval Science 2011 Woodrow Street
- †ROBERT LEET PATTERSON (1945), B.D., Ph.D.
Professor of Philosophy Washington Duke Hotel
- ‡LEWIS PATTON (1926), Ph.D.
Associate Professor of English 614 Swift Avenue
- WILLIAM BERNARD PEACH (1951), Ph.D.
Assistant Professor of Philosophy 920 Dacian Avenue
- TALMADGE LEE PEELE (1939), M.D.
*Associate Professor of Anatomy, and
 Assistant Professor of Medicine* E2B University Apartments
- ‡CHARLES HENRY PEETE, JR. (1953), M.D.
Associate in Obstetrics and Gynecology Alastair Court
- EDWARD JOSEPH PELLICCIARO (1954), Ph.D.
Research Instructor in Mathematics 1820 Forest Road
- KENNETH E. PENROD (1950), Ph.D.
*Associate Professor of Physiology and Pharmacology, and
 Assistant to the Dean of the School of Medicine* 2745 Dogwood Road
- §EDMUND FRANKLIN PERRY (1950), Ph.D.
Assistant Professor of Undergraduate Religion 300 Swift Avenue
- HAROLD SANFORD PERRY (1932), Ph.D.
Associate Professor of Botany 2302 Cranford Road
- SOLOMON PAUL PERRY (1953), M.D.
Assistant Professor of Radiology 1212 Arnette Avenue
- ELBERT LAPSLEY PERSONS (1930), M.D.
*Associate Professor of Medicine, and Associate Professor
 of Preventive Medicine and Public Health* 723 Anderson Street
- WALTER SCOTT PERSONS (1930), A.B.
Assistant Professor of Physical Education 612 Swift Avenue

* Resigned, June 30, 1955.

† Absent on leave, February 1, 1955, through January 31, 1956.

‡ Absent on leave, 1954-55.

§ Resigned, August 31, 1954.

- ERNST PESCHEL (1953), M.D.
Associate in Medicine 2306 Pershing Street
- JAMES E. PETERSON (1954), B.C.E., M.S.C.E.
Instructor in Civil Engineering 1024 Minerva Avenue
- RAY C. PETRY (1937), Ph.D., LL.D.
Professor of Church History 128 Pinecrest Road
- *CLINTON M. PETTY (1953), Ph.D.
Research Instructor in Mathematics J3A University Apartments
- OLAN LEE PETTY (1952), Ph.D.
Assistant Professor of Education 1509 Woodland Drive
- JOHN BERNARD PFEIFFER, JR. (1949), M.D.
Assistant Professor of Medicine N3B University Apartments
- †JAMES HENRY PHILLIPS (1946), Ph.D.
Associate Professor of Biblical Literature 2517 Perkins Road
- JANE PHILPOTT (1951), Ph.D.
Assistant Professor of Botany 804 Fourth Street
- HENRY FLOYD PICKETT (1935), A.B.
Associate in Medical Art and Illustration, and Photographer 2506 Cornwallis Road
- KENNETH LEROY PICKRELL (1944), M.D.
Professor of Plastic Surgery 3 Sylvan Road
- ‡ROBERT FRANCIS PIERRY (1953), B.S. in C.E.
Instructor in Civil Engineering Route 1, Cornwallis Road
- HILDA PERSONS POPE (1948), Ph.D.
Assistant Professor of Bacteriology 886 Louise Circle, Poplar Apartments
- §FRANCIS ROSS PORTER (1930), B.S.
Superintendent of the Hospital and Professor of Hospital Administration Hillsboro, N. C.
- MARY ALVERTA POSTON (1930), A.M.
Associate in Bacteriology 512 Watts Street
- MARY POTEAT (1935), Ph.D.
Assistant Professor of English 103 Faculty Apartments
- BENJAMIN E. POWELL (1946), Ph.D.
Professor in the Faculty of Arts and Sciences 3609 Hathaway Road, Hope Valley
- LANIER WARD PRATT (1940), M.A.
Instructor in Romance Languages 2007 Ruffin Street
- RICHARD LIONEL PREDMORE (1950), D.M.L.
Professor of Romance Languages 2413 Perkins Road
- JAMES LIGON PRICE, JR. (1952), Ph.D.
Assistant Professor of Undergraduate Religion 2723 Circle Drive
- ALBERT ELSWORTH PUGH (1953), M.D.
Assistant Professor of Medicine and Chief, Professional Services, Veterans Hospital Staff Quarters, Veterans Hospital
- JAMES MINETREE PYNE (1949), B.S.
Assistant Professor of Hospital Administration and Assistant Superintendent of the Hospital 1832 Forest Road
- DAVID RABIN (1953), B.S. in M.E., LL.B., LL.M. (Pat.)
Instructor in Mechanical Engineering 3701A Manor Drive Greensboro, N. C.

* Resigned, August 31, 1954.

† Absent on sabbatical leave, fall semester, 1954-55.

‡ Resigned, December 31, 1954.

§ Absent on leave, October 1, 1954, to January 1, 1955.

- CHARLES WILLIAM RALSTON (1953), B.S., M.F., Ph.D.
Assistant Professor of Forest Soils 1010 Arnette Avenue
- ROBERT STANLEY RANKIN (1927), Ph.D.
Professor of Political Science 1107 Knox Street
- JOSEPHINE RAPPAPORT (1952), R.N., M.A.
Assistant Professor of Nursing Education Hanes House
- BENJAMIN ULYSSES RATCHFORD (1928), Ph.D.
Professor of Economics 133 Pinecrest Road
- *BENJAMIN SMITH READ (1952), B.A., Major, U. S. Marine Corps
Assistant Professor of Naval Science 1023 Lakewood Avenue
- ISRAEL THOMAS REAMER (1931), Ph.G.
Associate in Pharmacy 2406 West Club Boulevard
- †KENNETH JAMES REARDON (1947), A.M.
Associate Professor of English 2610 Duke Homestead Road
- ‡EMMETTE S. REDFORD (1954), Ph.D.
Visiting Professor of Political Science 809 Knox Street
- FREDERICK JEROME REED (1935), M.E., M.S.
Associate Professor of Mechanical Engineering 2203 Englewood Avenue
- ROBERT JAMES REEVES (1930), M.D.
Professor of Radiology 920 Anderson Street
- EDWIN KELSEY REGEN (1951), B.D., D.D.
Visiting Lecturer in Church Administration 1106 Watts Street
- HUGO MANLEY REICHARD (1951), Ph.D.
Instructor in English 2 Duke University Apartments
- MRS. WALLY REICHENBERG-HACKETT (1946), Ph.D.
Assistant Professor of Psychology Route 1, Erwin Road
- *FREDERICK P. RENKEN (1950), B. Arch., Major, U. S. Air Force
Assistant Professor of Air Science 2523 State Street
- THOMAS D. REYNOLDS (1953), Ph.D.
Assistant Professor of Education Apartment M4, 815 Demerius Street
- JOSEPH BANKS RHINE (1927), Ph.D.
Director of Parapsychology Laboratory Hillsboro, N. C.
- McMURRY SMITH RICHEY (1954), B.D., Ph.D.
Assistant Professor of the Philosophy of Christian Education 4C Poplar Apartments, 944 Lambeth Circle
- JOHN A. RITCHIE (1953), M.D.
Associate in Psychiatry 1004 Carolina Avenue
- HENRY STOUTTE ROBERTS, JR. (1948), Ph.D.
Associate Professor of Zoology Box 176, Route 5, Duke Homestead Road
- JOHN HENDERSON ROBERTS (1931), Ph.D.
Professor of Mathematics 2813 Legion Avenue
- RACHEL LEE RODGERS (1954), B.S.N.E.
Instructor in Nursing Arts Apartment S2, 810 Demerius Street
- ELIOT H. RODNICK (1949), Ph.D.
Professor of Psychology, and Director of Clinical Training in Psychology 2806 Legion Avenue

* Resigned, August 31, 1954.

† Absent on sabbatical leave, spring semester, 1954-55.

‡ Fall semester, 1954-55.

- E. STANFIELD ROGERS (1952), M.D.
Associate Professor of Pathology 602 Ruby Street
- ROBERT SAMUEL ROGERS (1937), Ph.D., F.A.A.R.
Professor of Latin 148 Pinecrest Road
- THEODORE ROPP (1938), Ph.D.
Associate Professor of History 302 Woodridge Drive
- JESSE LEE ROSE (1936), Ph.D.
Associate Professor of Latin and Greek 506 Buchanan Boulevard
- NORMAN F. ROSS (1937), D.D.S.
Associate in Dentistry Chelsea Circle, Hope Valley
- DONALD FRANCIS ROY (1950), Ph.D.
Assistant Professor of Sociology 904 Shepherd Street
- JOHN JESSE RUDIN, II (1945), Ph.D.
Associate Professor of Speech 1019 Rosehill Avenue
- MABEL F. RUDISILL (1948), Ph.D.
Associate Professor of Education 213 West Markham Avenue
- JULIAN MEADE RUFFIN (1930), M.D.
Professor of Medicine 816 Anderson Street
- RALPH WAYNE RUNDLES (1945), Ph.D., M.D.
Associate Professor of Medicine 132 Pinecrest Road
- REAMES HAWTHORNE SALES (1949), B.D., Ph.D.
Assistant Professor of Undergraduate Religion 2800 University Drive
- MURIEL I. SANDEEN (1950), Ph.D.
Assistant Professor of Zoology 706 Louise Circle
- CHARLES RICHARD SANDERS (1947), Ph.D.
Professor of English 103 Pinecrest Road
- *MRS. EUGENIA CURTIS SAVILLE (1947), M.A.
Assistant Professor of Music 1103 Anderson Street
- *LLOYD BLACKSTONE SAVILLE (1946), Ph.D.
Associate Professor of Economics 1103 Anderson Street
- JOHN HENRY SAYLOR (1928), Ph.D.
Professor of Chemistry 2500 Perkins Road
- THOMAS ANTON SCHAFER (1950), B.D., Ph.D.
Assistant Professor of Historical Theology 903 West Proctor Street
- CLARENCE HENRY SCHETTLER (1946), Ph.D.
Associate Professor of Sociology 119 Pinecrest Road
- HERMAN MAX SCHIEBEL (1939), M.D.
Associate in Surgery 1020 Anderson Street
- KNUT SCHMIDT-NIELSEN (1952), Mag.Sc., Ph.D.
Professor of Zoology 2402 Chapel Hill Road
- FRANCIS XAVIER SCHUMACHER (1937), B.S.
Professor of Forestry 6 Sylvan Road
- RUDOLPH MATHIAS SCHUSTER (1953), Ph.D.
Research Associate and Visiting Assistant Professor of Botany 1427 Broad Street
- THEODORE B. SCHWARTZ (1948), M.D.
Assistant Professor of Medicine 854 Louise Circle, Poplar Apartments
- †ESTHER LOUISE SCHWERTMAN (1947), Ph.D.
Assistant Professor of English 909 Lambeth Circle, Poplar Apartments

* Absent on sabbatical leave, 1954-55.

† Absent on sabbatical leave, fall semester, 1954-55.

- GEORGE WILLIAM SCHWERT, JR. (1946), Ph.D.
Associate Professor of Biochemistry 611 Hammond Street
- WILL CAMP SEALY (1946), M.D.
Associate Professor in Charge of Thoracic Surgery Division 2232 Cranford Road
- WALTER JAMES SEELEY (1925), E.E., M.S.
James B. Duke Professor of Electrical Engineering 1005 Urban Avenue
- JAMES HUSTEAD SEMANS (1953), M.D.
Associate Professor of Urology 1415 Bivins Street
- DAVID GORDON SHARP (1939), Ph.D.
Associate Professor of Biophysics in Experimental Surgery, and Biophysicist to Duke Hospital 202 Francis Street
- LAMBERT ARMOUR SHEARS (1927), Ph.D.
Professor of German 917 Green Street
- *MILDRED MARGUERITE SHERWOOD (1930), R.N.
Associate in Pediatric Nursing Hanes House
- JOHN HERMAN SHIELDS (1926), A.M.
Associate Professor of Accounting 1315 Vickers Avenue
- MELVIN G. SHIMM (1953), LL.B.
Assistant Professor of Law 2902 Erwin Road
- WILLIAM WARNER SHINGLETON (1947), M.D.
Assistant Professor of Surgery 1510 Carolina Avenue
- JOSEPH ROBERT SHOENFIELD (1952), Ph.D.
Instructor in Mathematics 1003 East Trinity Avenue
- WADE H. SHUFORD (1954), M.D.
Associate in Radiology Duke Hospital
- GEORGE ADDISON SILVER, III (1946), M.D.
Assistant Professor of Psychiatry 2005 Arbor Street
- †ALBERT J. SILVERMAN (1953), M.D.
Associate in Psychiatry 622 West Markham Avenue
- EDWARD CHRISTIAN SIMMONS (1947), Ph.D.
Professor of Economics 2510 Perkins Road
- WILLIAM HAYS SIMPSON (1930), Ph.D.
Associate Professor of Political Science 1406 Dollar Avenue
- ALLAN P. SINDLER (1954), Ph.D.
Instructor in Political Science Route 1, Hillsboro Road
- ‡MARY CLYDE SINGLETON (1950), B.S., R.P.T.T.
Associate in Physical Therapy 819 Louise Circle, Poplar Apartments
- ALBERT G. SMITH (1951), M.D.
Associate in Pathology 826 Louise Circle, Poplar Apartments
- DAVID TILLERSON SMITH (1930), M.D., Litt.D.
James B. Duke Professor of Bacteriology, and Associate Professor of Medicine 3437 Dover Road, Hope Valley
- FRANK M. SMITH (1951), M.A., Captain, U. S. Air Force
Assistant Professor of Air Science 1425 Pennsylvania Avenue
- GROVER C. SMITH, JR. (1952), Ph.D.
Instructor in English 1109 North Gregson Street
- HILRIE SHELTON SMITH (1931), Ph.D., D.D., Litt.D.
James B. Duke Professor of American Religious Thought 2721 Dogwood Road
- JOHN B. K. SMITH (1953), M.B., Ch.B., M.D.
Associate in Psychiatry Highland Hospital, Asheville, N. C.

* Absent on leave, 1954-55.

† Absent on leave, March 1 to August 31, 1955.

‡ Resigned, July 15, 1954.

- ROBERT SIDNEY SMITH (1932), Ph.D.
Professor of Economics 2236 Cranford Road
- MRS. SUSAN GOWER SMITH (1930), M.A.
Associate in Nutrition 3437 Dover Road, Hope Valley
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Instructor in Mathematics 919 Second Street
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Instructor in Physical Education 201 Faculty Apartments
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James B. Duke Professor of Economics 2240 Cranford Road
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Professor of Physics 3309 Avon Road, Hope Valley
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Professor of Law 1008 West Trinity Avenue
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Instructor in Physical Education 601 Watts Street
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Assistant Professor of Psychiatry 215 Faculty Apartments
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Associate Professor of Art 26 Alastair Court

* Absent on sabbatical leave, fall semester, 1954-55.

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*Assistant Professor of Hospital Administration,
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* Fall semester, 1954-55.

† Died, May 27, 1955.

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† Absent on sabbatical leave, spring semester, 1954-55.

‡ Resigned, August 31, 1954.

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Professor of Neurosurgery 4006 Dover Road, Hope Valley
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* Resigned, August 31, 1954.

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Assistant Professor of Nursing 918 Monmouth Avenue

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Undergraduate Religion 927 West Trinity Avenue
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Chemistry and Research Associate 819 Demerius Street
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Physics 620 Markham Avenue
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English Box 4310, Duke Station
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Latin 3 Fairview Road, Chapel Hill, N. C.
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English 604 Cleveland Street
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Mechanical Engineering Men's Graduate Center
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English Box 5182, Duke Station
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Romance Languages 1417 Watts Street
- JOHN ADDISON TUMBLIN, JR. (1954), M.A.
Sociology 953 Lambeth Circle, Poplar Apartments
- * Spring semester, 1953-54.

JOSEPH C. WOOD, JR. (1954), B.M., M.M.
Music

320B North Aycock Street
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DONALD PENNIMAN WYLIE (1952), M.B.A., J.D.
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2602 Augusta Drive

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1405 Vickers Avenue

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* Resigned, September 15, 1954.

† Resigned, December 31, 1954.

‡ Resigned, July 31, 1954.

§ Resigned, August 31, 1954.

- CONSTANCE F. PARVEY, B.A.
Advisor to Lutheran Students Aycock House
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Chaplain to Methodist Students 1019 West Markham Avenue
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* Resigned, October 31, 1954.

† Resigned, May 31, 1954.

‡ Absent on leave, 1954-55.

§ Absent on sabbatical leave, 1954-55.

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Physical Education, Trinity College

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Assistant Professor of Physical Education; Coach of Soccer; Director, Intramural Athletics 2001 Ruffin Street
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Assistant Professor of Physical Education; Coach of Basketball 1903 Washington Street
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Assistant Athletic Director 2527 Glendale Avenue
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Business Manager of Athletics Pickett Road
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Assistant Professor of Physical Education; Assistant Trainer 3300 Cole Mill Road
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Assistant Coach of Football 233 Forest Wood Drive
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- * Resigned, August 31, 1954.
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UNDERGRADUATE INSTRUCTION

TRINITY COLLEGE

THE WOMAN'S COLLEGE

THE COLLEGE OF ENGINEERING

The Undergraduate Colleges



The three colleges exist as parts of a university community in which the student has full opportunity to take part. They have a unique role in this community as the centers of individual education for undergraduates, but as members of the University the colleges share in the extensive facilities of laboratory and field work, superior physical equipment, great libraries, and able faculties which only a major university can provide. They share the same campuses with the Graduate School of Arts and Sciences, the Law School, the Medical and Nursing Schools, the Divinity School, the School of Forestry, and the Duke Hospital. A wide range of activities, religious, intellectual, cultural, social, and athletic, is open to the entire University community. At the same time there are other activities and organizations designed specifically for members of each undergraduate college. The student may thus enjoy both the activities and the atmosphere of a small college and the broader facilities and challenges provided by the existence of a university community.

Although the three colleges have separate identities, they are closely inter-related. Students of Trinity College and the College of Engineering live in the same dormitories, belong to the same fraternities, hold membership in the same student government association, attend classes in the same buildings. The College of Engineering provides for the specialized interests of its students by offering training in technical fields. At the same time it recognizes the importance of the study of the humanities because it realizes that the engineer has definite responsibilities as a citizen and that these responsibilities cannot be properly stressed in the purely technical curricula. Engineering students, therefore, participate in the academic and extra-curricular life of the liberal arts college as well as in the training and campus activities peculiar to their own college.

As a coordinate college within the University system the Woman's College shares the advantages of the wider community, and yet it offers to its students the special opportunities which belong to a separate woman's college. Women students receive training in leadership by administering their own organizations and by participating in community projects. At the same time they have the stimulus which comes from co-educational classes and from the experience of working with men of other colleges in campus activities.

Duke University is concerned with developing the whole man. In its classrooms, libraries, and laboratories it is concerned with his mental and moral development, in its gymnasiums and on its playing fields, with his physical growth, and in its Chapel and religious program, with his spiritual well being. Although it has always been closely associated with the Methodist Church, Duke welcomes students of all faiths and encourages them to develop their spiritual lives in accordance with the tenets of their own creeds. The need of training for specialized professions and employments is recognized, but such training is incidental to a larger purpose. Through the variety of the subject matter, the insistence on a common core of fundamental courses, and an emphasis on a more intensive study of some selected subject, the colleges seek to give their students a knowledge and appreciation of the culture of the Western World and at the same time to provide a foundation for careers in business and the professions.

Whether in the classroom or on the campus the emphasis is on the individual. To this end, classes are kept small in size and close contact between professor and student is encouraged. Instructors, counsellors, advisers, and administrative officers are interested in the student as a person. In turn the student is expected to accept the responsibility of contributing to his own development, to his college, and to his university. The relationship of mutual service between the individual student and his college is designed to develop men of intelligence, integrity, and culture. From this relationship there has grown through a century and more a sense of achievement and high competence that enables Duke men and women to make their place in the world as effective citizens whatever their careers may be.

Admission to the Colleges



CANDIDATES may qualify for admission as members of the freshman class or as students with advanced standing. Since the enrollment is limited, the Committee on Admissions selects students who, in its judgment, are best qualified to benefit from the educational advantages which the colleges offer. The Committee bases its decision on the academic record of the candidate, on test scores, and on satisfactory evidence of good character and general fitness for college life at Duke. A visit to the campus for a personal interview with an officer of the University is of material benefit to the candidate and the Committee.

ADMISSION TO THE FRESHMAN CLASS: A candidate for admission to the freshman class must present at least fifteen acceptable units of secondary school credit.

For admission to Trinity College and the Woman's College twelve of the fifteen units must be in English, foreign language, history* and social studies, mathematics, and science. They must include three units in English, one unit in algebra, and one unit in plane geometry. The three remaining units are elective and may be selected from those subjects for which the school allows credit toward graduation; but it is recommended that they also be selected from the five subject fields listed above.

For admission to the College of Engineering seven of the fifteen units must be in English (3 units), chemistry or physics (1 unit), algebra ($1\frac{1}{2}$ units), plane geometry (1 unit), and solid geometry† ($\frac{1}{2}$ unit). The remaining eight units are elective. At least five of them must be in English, foreign language, history and social studies, mathematics, and science. It is recommended that these five units be chosen from the following list:

English (in addition to the required 3 units).....		1 unit
Algebra (in addition to the required $1\frac{1}{2}$ units).....	$\frac{1}{2}$ to	$1\frac{1}{2}$ units
Trigonometry		$\frac{1}{2}$ unit
Biology or chemistry or physics (in addition to the required unit)..	1 to	3 units
Foreign language	1 to	4 units
‡History and social studies.....	1 to	4 units

The three additional units needed to make the total of fifteen may be selected from those subjects for which the school allows credit

* Candidates who do not present two acceptable units of history must take history in college.

† Students may be admitted with a deficiency in solid geometry, but the deficiency must be removed before the beginning of the sophomore year.

‡ Engineering candidates who do not present at least one acceptable unit of history must take history in college.

toward graduation; but it is recommended that they also be chosen from the above list.

A graduate of an accredited secondary school who submits fifteen acceptable units of credit, who is recommended by his school principal, and who in all other respects meets the requirements of the Committee on Admissions may be admitted without examination. A candidate whose graduation is from a non-accredited school or about whom there may arise any other question as to qualification for admission may be required to take entrance examinations or such other tests as the Committee on Admissions may prescribe.

It is recommended that all candidates for admission to the freshman class take the Scholastic Aptitude Test of the College Entrance Examination Board or a similar program of tests administered on the Duke campus by the Duke University Bureau of Testing and Guidance. Details of the procedure to be followed in applying for either of these testing programs will be sent to each candidate for admission.

ADMISSION TO ADVANCED STANDING: A candidate for admission to advanced standing must have fulfilled the equivalent of the requirements for admission to the freshman class, must present official transcripts of all work completed in other institutions, and must have an honorable dismissal from each institution previously attended. Advanced standing candidates who have previously taken the Scholastic Aptitude Test of the College Entrance Examination Board should request the Board to send a report of their test scores to the Director of Admissions. All others are advised to take the Scholastic Aptitude Test or the program of tests administered by the Duke University Bureau of Testing and Guidance, as recommended for freshman candidates.

Credit for work completed at other institutions will be determined in relation to the curriculum requirements of the college in which the student enrolls at Duke.

A student who transfers with advanced standing to Trinity College or the Woman's College from a junior college or from a four-year college not affiliated with a regional accrediting association must continue, for at least one semester in Trinity College or in the Woman's College, the foreign language he or she presents for minimum graduation requirements. Credit for courses in science offered for advanced standing in any of the undergraduate colleges by a transfer from a junior college or a non-affiliated four-year college will be determined by the departments concerned.

Transfer credits are tentatively evaluated pending the completion of two semesters of work in residence. To validate provisional credits the student must earn at least an average of C in a normal load of work. Transfer credit, in which grades of C or above have been earned, is rated at two quality points per semester hour when validated.

Courses in which grades of less than C have been earned are not acceptable for transfer credit.

The maximum amount of credit acceptable from a junior college is 60 semester hours, exclusive of physical education. No credit is given for work completed by correspondence, and credit for no more than six semester hours is allowed for extension courses. Any extension work accepted must be specifically approved by the dean of the college to which the student seeks admission.

ADMISSION OF SPECIAL STUDENTS: Upon the approval of the dean, students of mature age may be admitted for special work in such courses of instruction as they are qualified to take. They may not be admitted as candidates for a degree in a regular course unless they meet all normal requirements for admission.

ADMISSION PROCEDURE: Application for admission should be made to the Registrar, Duke University, Durham, North Carolina. Application forms and instructions will be sent to the candidate. It is the responsibility of the candidate to see that these forms are properly executed and, together with other requested material, sent promptly to the Office of Admissions.

Application prior to the final year of the secondary school course is not required. Formal steps looking toward admission should be initiated, however, early in the senior year. Candidates for admission are requested to file all credentials by March 1. Candidates for admission to the Woman's College normally will receive notification of the decision of the Committee on Admissions between April 15 and May 1. Candidates for admission to Trinity College and the College of Engineering will be notified as decisions are made.

READMISSION OF FORMER STUDENTS: A student who, following withdrawal from college, desires to return should apply to the Registrar. When applying for readmission the student should make a detailed statement of his or her activities since leaving Duke University.

Financial Information and Living Accommodations



FEES paid by the students cover only a part of the cost of their instruction and of the operations of the University. Income from endowment and contributions from the alumni, alumnae, and other public-spirited men and women meet the balance, which constitutes more than half the total cost.

Fees

A registration fee of \$20.00 is required of all new students. This fee is payable only once; it is not refundable. A room deposit of \$25.00 is also required of all new students. A tuition fee of \$225.00 and a general fee of \$75.00 are payable at the beginning of each semester. The general fee is in lieu of special fees usually charged for matriculation, use of laboratories, student health service, commencement, etc. Special fees for instruction in Applied Music are listed on page 109.

An advance deposit of \$25.00 is required of all students in residence at the time of spring registration in order to reserve a place in classes for the fall semester. This is applied toward payment of the general fee at the opening of the fall semester. The deposit will be refunded to students whom the University does not permit to return. Students who of their own volition fail to return are not entitled to a refund.

An advance deposit of \$25.00 is also required of old students who have been out of school for one or more semesters and have been accepted for readmission. It is applied toward payment of the general fee for the semester of readmission. The advance deposit is paid at the time of notification of acceptance and is not refundable.

An Air Force ROTC deposit of \$20.00 is required of students enrolling in Air Science to cover possible loss of military equipment issued to them. This deposit is refunded to the student upon return of issued equipment.

Refunds of tuition and other fees are made to students who withdraw within fourteen days after the beginning of the semester, with the exception of the advance deposits listed above. On and after the fifteenth day no refunds of fees are made. Stipulations governing the refunding of the \$25.00 room deposit are explained in the sections on Living Accommodations.

Students who register during the regular academic year for no

more than two courses with a maximum credit of 8 semester hours are classified as special students. They are charged a registration fee of \$5.00 for each course, and \$15.00 for each semester hour of course credit. Students taking nine or more hours are charged full fees.

Auditors are permitted to attend classes provided they secure the consent of the instructor. They submit no daily work, take no examinations, and receive no credit. Students taking a full program and paying full fees may audit one or more courses without charge. Students not paying full fees are charged \$10.00 for each course each semester.

Students are entitled to one transcript free of charge. Additional copies are supplied at \$1.00 each. Records are not released when the Treasurer's Office reports an unpaid account.

Students may have their bills sent to parents or guardians provided the Treasurer has been notified in writing with sufficient antecedence. Failure of a student or of a parent or guardian to pay bills on the dates scheduled will debar the student from class attendance until his account is settled in full; subsequent withdrawal does not entitle him to a refund. No student is considered by the Faculty as a candidate for graduation until he has settled with the Treasurer for all his indebtedness to the University. A student who has not settled all his bills with the Treasurer is not allowed to stand the final examinations of the academic year.

Estimated Expenses for an Academic Year

Incidental expenses depend upon the tastes and habits of the individual, but the estimated necessary expenses for an academic year are as follows:

	<i>Low</i>	<i>Moderate</i>	<i>Liberal</i>
Tuition	\$ 450.00	\$ 450.00	\$ 450.00
General Fee	150.00	150.00	150.00
Room Rent	175.00	175.00	225.00
Board	400.00	475.00	525.00
Laundry	30.00	40.00	50.00
Books	30.00	40.00	50.00
	<u>\$1235.00</u>	<u>\$1330.00</u>	<u>\$1450.00</u>

The actual fees and expenses necessary for one year in residence as a student in Trinity College or the College of Engineering can be met with \$1235.00.

Student Aid

Duke University is interested in students with ability and ambition. It is the aim of the University Scholarship Committee and others affiliated with the Student Aid Program to provide, insofar as possible,

the financial assistance required by worthy students. This assistance takes various forms. The actual cost to the University for each student is more than twice the amount received from the student. The deficit is paid out of contributions and income from endowment. Scholarships and prizes enable students with inadequate resources to reduce the amount payable to the University. Loans are made available, and through the Student Employment Offices part-time jobs are arranged. Through the Student Aid Program an earnest effort is made to eliminate the economic status of the student as a criterion for admission.

Scholarships

Scholarships intended to aid needy and deserving students have been established from time to time by persons deeply interested both in Duke University and in the members of its student body. Scholarship endowments are held in trust and are kept separate from other holdings of the University. All income is applied in accordance with the terms of the gift or bequest.

Scholarships are awarded annually by a committee of the Faculty appointed by the President of the University. In some cases donors have specified certain limitations and conditions, but in all cases final award is made by the University Scholarship Committee.

Candidates for competitive scholarship prizes should initiate applications during the fall semester of the senior year of study in secondary school. Instructions concerning the specific requirements and deadline dates will accompany the application materials sent to applicants for these awards.

Candidates for remissions of tuition and scholarship grants should submit applications by April 15 of the year prior to the academic year in which assistance is sought.

All applications for scholarship prizes, scholarship grants or remissions of tuition should be addressed to the Registrar, Duke University, Durham, North Carolina.

SCHOLARSHIP PRIZES: Certain scholarships are awarded annually to encourage as students young men and women who give outstanding promise of becoming leaders in their chosen fields of endeavor. Recipients of these awards are, in general, students whose superior intellect and excellence as scholars and leaders mark them as individuals who have the ability to influence and direct the course of affairs.

In considering applications for Scholarship Prizes, no weight is given by the Scholarship Committee to the financial situation of the candidate. The awards are based upon the proven merit of the individual rather than his need for financial assistance.

Thirteen Angier B. Duke Memorial Prizes of \$1,000.00 each are awarded annually to six men and three women who are residents of North Carolina, two men who are residents of South Carolina, and two men, residents of North or South Carolina, who are winners of at-large competitions. Any resident of the State of North Carolina or male resident of South Carolina who meets the stated requirements is eligible to apply regardless of where he or she prepares for college.

Six Duke University Regional Scholarships of \$1,000.00 each are awarded annually to male residents of designated regions listed below. Any qualified resident of a designated region will be eligible to apply regardless of where he prepares for college.

Region I: The District of Columbia; Albemarle, Clarke, Culpeper, Fairfax, Fauquier, Frederick, Greene, Highland, King George, Loudoun, Madison, Orange, Page, Prince William, Rappahannock, Rockingham, Shenandoah, Spotsylvania, Stafford, Warren, Westmoreland counties and the city of Alexandria in Virginia; Montgomery and Prince Georges counties in Maryland.

Region II: The state of Virginia excluding those counties comprising a part of Region I.

Region III: The state of Florida.

Region IV: The state of Georgia.

Region V: The state of Tennessee.

Region VI: The state of West Virginia.

Three Duke University National Scholarships of \$1,000.00 each are awarded annually to women. Any qualified applicant for admission to the Woman's College of Duke University will be eligible to apply regardless of where she prepares for college.

Scholarship Prizes are awarded for one year and are renewable from year to year for a maximum duration of four years, on the condition that the holder maintain scholastic average in the upper quartile of his or her class and further that he or she show evidence of developing the qualities of leadership which served as the basis for the original award.

Candidates for Angier B. Duke Memorial Prizes, Duke University Regional Scholarships, and Duke University National Scholarships must be eligible for admission to the freshman class of Trinity College, the College of Engineering, or the Woman's College in the ensuing academic year. A candidate must have attained scholastic standing in the highest quartile of his or her class as of the closing date of his or her most recently completed semester at the time of application.

Fifteen honorary tuition scholarships are awarded annually to undergraduates in residence. Five are awarded to members of the sophomore class, five to members of the junior class, and five to mem-

bers of the senior class on the basis of the scholastic work of the preceding year.

REMISSIONS OF TUITION: Certain students attending Duke University are entitled to a remission of the tuition charge. Students in one of the privileged groups listed below are entitled to a maximum of eight semesters of free tuition at the undergraduate level. Each Summer Session in which work is taken and each semester spent in another institution will be counted as one of the eight allowable semesters. Only those students enrolled in the regular undergraduate program leading to a baccalaureate degree from Duke University are entitled to a remission of the tuition charge.

The purpose of the remission program is to assist the students in these categories to obtain a baccalaureate degree. It is assumed, therefore, that these students will make normal progress toward graduation. Failure to do so does not entitle a student to consideration for more than the allowable eight semesters.

All students entitled to a remission of tuition must apply to the Executive Secretary of the Scholarship Committee for this consideration. Students failing to receive remission for any part of their period of undergraduate study are not entitled to retroactive consideration.

GROUP I: All students preparing to enter full-time religious work in a denomination maintaining a paid ministry are entitled to remission. Pre-Ministerial students are required to sign a note in the amount of their tuition at the beginning of each semester. The notes of all students from this group entering the ministry will be cancelled and returned to them. The notes of all students from this group failing to enter the ministry become due and payable with interest.

GROUP II: Children of ministers who are members of the North Carolina and Western North Carolina Conferences of the Methodist Church are entitled to remission as are the children of ministers of all faiths residing in Durham County, North Carolina. This consideration is given only to the children of resident members of the two North Carolina conferences who are giving their full time to religious work.

GROUP III: Remissions are given to the children, stepchildren, and adopted children of all staff members of Duke University in the following categories: (A) Staff members of the University listed in the catalog as "Officers of the University" who are employed on a full-time basis. (B) "Officers Emeriti." (C) Any deceased staff member of the University listed in the catalog as an "Officer of the University" employed on a full-time basis at the time of his or her death. (D) Deceased "Officers Emeriti."

ATHLETIC AWARDS: Duke University believes that a program of inter-collegiate athletics is a proper and desirable part of university life. Therefore, a limited number of Athletic Awards is available

for students participating in football and basketball. Only a part of the students on the team squads, however, hold awards. There are no athletic awards for participants in track, swimming, lacrosse, cross country, baseball, golf, tennis, soccer, wrestling, and gymnastics.

The Athletic Award covers only those items which are approved under the rules of the Atlantic Coast Conference and National Collegiate Athletic Association in which Duke University holds membership.

SCHOLARSHIP GRANTS: Although sufficient funds are not available to assist all applicants who present requests for aid, a substantial number of Scholarship Grants are made each year to able students who need financial assistance in order to meet the cost of attending college. Any candidate for admission, therefore, who considers himself or herself to be in such need is eligible to apply for a Scholarship Grant.

Applicants for Scholarship Grants will be required to submit a detailed statement of financial resources.

Scholarship funds available to undergraduates are listed in the *Bulletin of Undergraduate Instruction*.

Loans

A number of loan funds have been established for the benefit of the students of Duke University. The most important and largest is the Angier B. Duke Memorial Student Loan Fund, which is administered through an advisory committee of officers of the University. The amount available to be loaned depends upon the income from investments and on the amount repaid on loans previously made to students. The same committee of officers administers the other endowed loan funds of the University.

The committee in approving loans selects those students who, from the standpoint of character, scholastic attainment, personality and degree of financial need, are deserving of consideration.

The following regulations govern the operation of the loan fund program:

1. No loan will be made to a student who violates any of the regulations of the University or whose academic record is not satisfactory to the faculty.

2. As a general policy, a student must have spent one semester in residence before he is eligible to apply for a loan. During this period the loan committee will have an opportunity to acquaint itself with the worth and need of the individual applicants.

3. Loans will be made only to students who are taking approved courses of study that lead to a degree, and all loans must be arranged for not later than one week after the beginning of a semester.

4. Every applicant for a loan must give the names of three references who will be approached by the student Loan Office. Statements from these references must have been received and made a part of the file before any money will be advanced. Neither of these references may be a member of a borrower's family.

5. Long term loans are customarily made to defray only the expenses incurred for tuition, fees, or room rent.

6. Interest on long-term student loans accrues at the rate of 1% from the date of each note and is payable during or before the week prior to the graduation exercise of each of the school years during which the borrower is enrolled at Duke University. After the student leaves the University permanently, the interest rate rises to 3% for the five year period required for payment. Any notes unpaid at the end of this five year period will bear interest at the rate of 6% until they are paid in full.

An extension of two years at the 1% interest rate is granted to those borrowers receiving a degree of Doctor of Medicine at Duke University. This extension covers the two year internship required of all medical students. An extension at the 1% interest rate is also granted to those borrowers who continue their study in other institutions of higher learning. Proper proof of residence must be submitted annually to the Student Loan Office. Extensions of this sort will be renewed from year to year and the maximum period of extension will depend upon particular circumstance of each student.

7. Applications for loans should be made to the Loan Committee, Office of the Secretary, Duke University. A formal application for loan assistance may be made only on forms furnished in the Secretary's Office during the first week of each semester. The granting or withholding of a loan is a matter entirely within the discretion of the loan committee. A student is expected to use all other possible means of securing financial assistance before applying for aid from the Loan Fund.

Loan funds available to undergraduates are listed in the *Bulletin of Undergraduate Instruction*.

Student Employment

Student employment offices are maintained to serve students who need part-time jobs. There are many opportunities both on the campus and in the city of Durham, and a considerable number of students each year help defray their college expenses by working.

Students may make application for part-time employment only after they have completed an application for admission and notifica-

tion of acceptance has been given. The job application should be by letter prior to the reporting date for entrance, and a detailed job application form must be completed at the time of arrival at Duke University.

Those students in Trinity College and the College of Engineering in need of such employment may apply to Mr. J. M. Dozier, 217 Allen Building, West Campus. Students in the Woman's College should apply to the Assistant Dean of Undergraduate Women, 108 East Duke Building, East Campus.

Living Accommodations for Men

Craven, Crowell, Few, and Kilgo Quadrangles on the West Campus are reserved for undergraduate men. These quadrangles contain thirty-three Houses designated by letters of the alphabet from House A through House HH. The rooms are equipped as single and as double rooms. In some areas communicating doors between rooms provide suites for three or four persons. Kilgo and a part of Crowell Quadrangle are reserved for members of the Freshman Class.

Undergraduate men are required to live in the residence houses unless they are married or are living with parents or relatives. Any exception must be approved by the Dean of Men.

The rental charge for a single room is \$225.00 for the academic year, or \$112.50 each semester. The rental charge for a double room is \$350.00 for the academic year, or \$175.00 for each occupant, or \$87.50 for each occupant each semester. Rooms are rented for a period of not less than one semester, or in case of a medical student, one quarter, unless by special arrangement with the Housing Bureau. For a shorter period of occupancy, without special arrangement, the rate is \$1.00 per day with a minimum charge of \$25.00.

Room reservations are made through the Housing Bureau only after official acceptance for admission to the University. A \$25.00 room deposit is required of each applicant before a room reservation is made. The initial room deposit is effective during the student's residence in the University if his attendance is continuous in regular academic years. This deposit will be refunded under the following conditions:

- a. Within thirty days after the student has been graduated.
- b. Upon withdrawal from the University, provided written notice is received in the Housing Bureau by August 1, for cancellation of a reservation for the fall semester; and not later than January 15, for cancellation of a reservation for the spring semester.
- c. When the reasons requiring withdrawal are beyond the student's control.

No refund is made until the occupant has checked out of his room through the Housing Bureau and has settled all of his accounts with the Treasurer.

A resident student, in order to retain his room for the succeeding academic year, must make application at the office of the Housing Bureau for confirmation of the reservation in accordance with the plan that is published during the school year.

Any exchange of rooms must be arranged at the Housing Bureau. A charge of \$2.00 will be incurred for room changes made after September 1 in the fall and February 15 in the spring. Persons exchanging rooms without the approval of the Housing Bureau will be subject to charges for both rooms.

The authorities of the University do not assume responsibility for the persons selected as roommates. Each student is urged to select his roommate when the room is reserved.

Beds and mattresses (39" x 74"), tables, chairs, dressers, mirrors, and window shades are furnished by the University. The student supplies linens, blankets and pillows. Rugs, if desired, are not to exceed 54 square feet in size.

Duke University desires to provide for its students a residential environment conducive to academic achievement, the development of high ideals, and sound character. The institution asks and believes that each student will cooperate in achieving these aims by arranging his personal belongings in an orderly manner, by caring for the buildings and furniture as he would do in his own home, and by observing a code based on gentlemanly behavior in an educational environment which demands respect for all residents. Regulations governing the occupancy of rooms will be supplied directly from the Housing Bureau when room reservations are made. Occupants are expected to abide by these regulations.

Living Accommodations for Women

Undergraduate women are required to live in Woman's College residence houses unless they are married or are living with parents or close relatives in the City. Under special circumstances, in the case of a mature student, the Dean may make an exception.

A counselor, who is a member of the Dean's staff, lives in each dormitory. She serves as adviser to individual students and, in cooperation with the student House Council, is responsible for the administration of the house.

The eight dormitories are alike in their organization. All four classes have full representation in each, approximately 30 spaces being reserved in each one for freshmen. Five of the dormitories, Alspaugh, Bassett, Brown, Giles, and Pegram, have both single and double rooms.

Southgate and Jarvis have no single rooms, and Aycock has only a few.

Rooms are rented for the full school year, unless special arrangements are made in advance with the Dean of Undergraduate Women, but payment may be made by semester. Each occupant of a double room is charged \$200.00 for the school year or \$100.00 per semester; the occupant of a single room, \$250.00 for the school year or \$125.00 per semester. Normally the rent for a shorter period of occupancy than a semester is \$1.00 per day with a minimum charge of \$25.00.

Room reservations are made with the Woman's College Housing Bureau. An applicant who has been officially accepted may reserve a dormitory room by paying a room deposit of \$25.00. If this deposit is not made within ten days after she is notified of her acceptance, her admission is cancelled. The initial room deposit is effective for the entire college course of the student whose attendance during regular terms is continuous. This deposit will be refunded under the following conditions:

- a. Within thirty days after the student has been graduated.
- b. Upon the student's withdrawal from the University, provided written notice is received in the Housing Bureau by August 1, for cancellation of a reservation for the fall semester; and not later than January 15, for cancellation of a reservation for the spring semester.
- c. When the reasons requiring withdrawal are beyond the student's control.

No refund is made until the occupant has checked out of her room through the Housing Bureau and has settled all of her accounts with the Treasurer.

Dormitory rooms are reserved by upperclass students in accordance with the plan that is published during the school year. All rooms that have not been reserved on or before the announced date will be considered vacant for the succeeding semester and will be assigned to others.

After a student has engaged a room, she is not permitted to move to another without the consent of the Woman's College Housing Bureau. A student leaving one room and occupying another without permission may be charged for both rooms for the entire semester. No student is allowed to rent or sublet her room to another occupant.

The Woman's College Housing Bureau selects a roommate for the new student who is assigned to a double room but has made no arrangements for a roommate. After a student has been in residence for one semester, however, she is responsible for obtaining and keeping a roommate if she continues to occupy a double room. If a student occupying a double room does not obtain a roommate within the time

required—approximately two weeks after the beginning of the semester—she may be required to pay the rental consideration for the whole room.

Rooms are equipped with only the principal articles of furniture. The student provides her own linens, blankets, pillows, bedspreads, curtains, and lamps. She may supply additional articles such as scatter rugs and small tables or bookcases; but large rugs or overstuffed furniture, which make cleaning difficult, are prohibited.

Dining Service

The dining facilities on the West Campus include three cafeterias with multiple-choice menus, and the Oak Room where full meals and *a la carte* items are served. The cost for the academic year ranges from \$400.00 to \$500.00 depending on the tastes of the individual. On the East Campus dining halls are located in the Union and in Southgate. Resident women may not board elsewhere than at these halls. The charge for board is \$200.00 per semester, payable at the time of registration.

In the Men's Graduate Center there is a cafeteria with multiple choice menus and a Coffee Lounge where sodas and sandwiches are served from 11:30 A.M. to 11:00 P.M. The prices in these dining rooms are the same as on the West Campus.

It is hoped that present rates may be maintained. Charges, however, are necessarily dependent on costs of labor, foods, and materials, and some adjustment may be necessary.

The Libraries



THE UNIVERSITY LIBRARIES, with 1,159,512 volumes and 1,550,000 manuscripts, provide exceptional resources and facilities for study and research by undergraduate and graduate students, and by visiting scholars. Between 40,000 and 50,000 volumes are added annually, and 71 foreign and domestic newspapers and 3,923 periodicals are received currently. A large collection of microfilms of rare books, newspapers, and periodicals is available.

A Chemistry library (16,000 volumes), Physics-Mathematics library (16,800), and Biology-Forestry library (51,000) are housed for convenience of use in the buildings of these departments. The libraries of the Schools of Divinity (67,000), Law (103,000), Medicine (56,200) and of the College of Engineering (21,300), are also shelved in the buildings of these schools, all on the West Campus.

The General Library, centrally located on the West Campus, has 727,000 volumes in all other fields. It is the principle working and research collection for students in the humanities and social sciences. The collection has been developed with care to support the work of the undergraduate curriculum and the more specialized needs of graduate and post-doctoral research. Basic collections of source materials are supported by the important publications of criticism and discussion. There are large collections of general periodicals, of the publications of European Academies, and of public documents of state, federal, and foreign governments, and international organizations. The newspaper collection (about 13,000 volumes and 4,300 rolls of microfilm) is particularly strong in papers from the states of the Atlantic seaboard, both North and South, with extensive holdings of Ante-bellum and Civil War papers of North Carolina, South Carolina, and Virginia.

The manuscript collections, relating chiefly to the South Atlantic region with particular strength in the Confederate period, is most extensive in the field of history, but it contains important source material on all phases of social and economic life as well as politics. There are groups of manuscripts in American and British literature, with a notable Walt Whitman collection, and a number of important mediaeval manuscripts, chiefly lectionaries and copies of the New Testament. Among many special collections of note are the Guido Mazzoni library of Italian and comparative literature, the Lanson Collection of French literature, Goethe and Dante collections, collections on Brazil, Peru, Ecuador, and the Philippines, the Holl Church history library, eighteenth-century English poetry and prose, a Socialist collection, the Arents tobacco collection, the Thomas collection of books on Chinese history and culture, the George Washington Flowers Collection of manuscripts, books, newspapers, and pamphlets dealing with all phases of Southern history, and the Trent collection of Walt Whitman books and manuscripts.

The General Library building, which was modernized and enlarged in 1949, contains many special features which contribute to the preservation of material and facilitate their use by students and research workers. The book stacks, manuscripts, and rare book storage and reading rooms are air-conditioned. Two hundred and fifty carrels, some completely enclosed, are available in the stacks as places of study for graduate students. Graduates and advanced students are permitted access to the stacks upon application. On the ground floor are a newspaper reading room with a battery of microfilm reading machines and a microphotography laboratory with facilities for reproducing printed and other material. On the same floor are the manuscripts reading room and storage area. The first floor has periodical, graduate, and undergraduate reading rooms, the latter opening into an attrac-

tively furnished small library for recreational reading. In the north wing is the rare book reading room, with adjoining special collections rooms and storage stacks. The second floor houses the general reference and reading room, the circulation department and Main Loan Desk, and the Public Card Catalog, a union catalog of books in all the University libraries. There is also a catalog of the library of the University of North Carolina at Chapel Hill, whose books are available through inter-library loan.

On the East Campus, the Woman's College Library, in its attractive Georgian building, contains 101,500 volumes in an open stack collection, chiefly those most constantly needed in the undergraduate work of women students. A reference and general reading room, the Thomas Memorial Room, and the Booklovers' Room with open shelves of books for general reading, provide comfortable and attractive space for reading and study.

A "Student's Guide to the General Library" is available on request addressed to the Librarian of the University.

Reserve Officers Training Corps



THROUGH the Naval and Air Force Reserve Officers Training program the University is cooperating with the Department of Defense in the effort to provide a steady supply of well-educated officers for the active and reserve forces of the Nation.

The Bureau of Testing and Guidance



THE UNIVERSITY maintains a Bureau of Testing and Guidance which provides a centralized program of educational, vocational, and personal counseling for students. In addition, the Bureau administers special group testing programs for University schools and departments and serves as the local testing center for a wide variety of national testing programs. The Bureau also carries on programs of research in the field of measurement and counseling. Although the counseling, testing, and research services of the Bureau are designed primarily to meet the needs of the students, the faculty, and the staff of Duke University, these services are made available to individuals and organizations outside the University as its facilities permit. Requests for further information should be addressed to the Director, Bureau of Testing and Guidance, Duke University, Durham, N. C.

Appointments Office



THE APPOINTMENTS OFFICE is a service agency designed to aid graduates in solving the problem of post-college employment. Its primary function is to serve as an intermediary between students and prospective employers. It acquaints students with possibilities in business and professional fields; it assembles comprehensive records on each registrant and makes these records available to appropriate representatives; and it arranges interviews with prospective employers. The data assembled for individual records include academic achievement, training, experience, extracurricular activities, and honors. On occasion additional information of a specialized nature is secured. Confidential letters of recommendation are incorporated in the file of each registrant. The Office initiates contacts for students or cooperates with students who make contacts through personal efforts or through various departments of the University. It aids the registrant in directing his search to a field appropriate to his aptitude, training, and interest.

There are two major divisions of the Office: the Commercial Division, which handles all matters involving contacts with business and professional areas not related to formal education; and the Educational Division, which concerns itself with teaching and school administration positions at all levels. Students and alumni may register with either or both of these divisions.

The Office receives more calls for qualified personnel than it can supply from its registrants. It is to the mutual advantage of the students and the Office that a complete record of registrants be assembled by the fall of the senior year.

The Summer Session



THE SUMMER SESSION at Duke University makes available to Duke undergraduate students and to undergraduates from other universities and colleges a notable program of instruction in many fields of knowledge both academic and professional.

Undergraduates in Duke University who desire to accelerate their programs may complete the work for a degree in three years by attending two and one-half summer sessions.

Undergraduates from other colleges and universities may enjoy the special advantages of summer instruction at Duke and transfer their earned credits to their own institutions.

The Summer Session of 1955, will include two six-week terms: Term I, June 14 to July 23; Term II, July 26 to August 31. By attending both terms it is possible for a student to earn as many as twelve semester hours of credit.

Instruction of interest to undergraduates will be offered in the summer of 1955 in the following departments and colleges: Botany; Chemistry; Economics; Education; Nursing Education; Engineering; English; Forestry; French; Geology; German; Greek; Health and Physical Education; History; Latin and Roman Studies; Mathematics; Philosophy; Physics; Political Science; Psychology; Religion; Sociology; Spanish and Zoology.

Distinctive features of Summer Session instruction are provided by the program in marine biology offered at the Duke Marine Laboratory, Beaufort, N. C., and by the School of Spanish Studies held on West Campus. The School of Spanish Studies (1955 will be its fourteenth session) offers unusual opportunities to students both undergraduate and graduate who seek proficiency in the active use of the language. Students and faculty live and board in the Residence and share in a Hispanic social program. Among the faculty are native professors and native student assistants. Everyone speaks Spanish. Courses are offered concurrently on the undergraduate and the senior-graduate level so that the student while acquiring oral facility in everyday living may also satisfy course requirements toward a degree.

While the basic purpose of the Summer Session is to serve the academic and the professional requirements of those who are interested in their own educational advancement, the University recognizes the need of, and provides for, a varied recreation program both athletic and social.

Undergraduates of Duke University both men and women who plan to attend the Summer Session should enroll with the Dean of their own college in Duke University. Undergraduates in other universities or colleges who seek transfer credits should apply directly to the Director of the Summer Session, Duke University, Durham, N. C.

Registration and Academic Regulations



ORIENTATION PROGRAM: All freshmen and transfer students are required to participate in the activities of Orientation Week. The program includes general ability, achievement, and placement tests, orientation lectures, physical examinations, social events, special religious services, registration, and enrollment.

The University considers the planning of a course of study to be of primary importance. Perhaps the most significant moments of Orientation Week, therefore, are those which a new student spends with his faculty adviser. With the results of the several tests which all freshmen take available to them, the adviser and the student plan a course of study adapted to the ability, achievements, and goals of the individual student. New students who miss the whole or a part of the Orientation Program place themselves at a serious disadvantage at the very outset of their college career.

MATRICULATION AND REGISTRATION: Students in residence are required to submit to the appropriate dean, not later than the date of the spring registration, cards showing their selection of courses for the following years. An advance deposit of \$25.00 is required before the card may be submitted. These cards, approved by the dean, are filed for permanent record in the dean's office. Students who do not select their courses for the following year at the time appointed must pay a fee of \$5.00 to the Treasurer of the University before their course cards may be approved for the fall. Students whose course cards have been approved in the spring may matriculate by mail during the summer. The same regulations, with the exception of the advance deposit, apply to registration for the spring semester.

Students who register in either semester at a date later than that prescribed in the calendar of this Bulletin must pay to the Treasurer a fee of \$5.00. They are counted as absent in the work they have missed in the courses to which they are admitted, and these absences carry the same penalty as do other absences from the course. Changes in courses for reasons not arising within the University require a payment of \$1.00 for each change made. No course may be elected later than one week after the opening of the semester, and no student may be admitted to any class without an official enrollment.

General Academic Regulations

QUANTITY CREDIT AND COURSE LOAD: The term of credit used is the semester hour which signifies one recitation a week throughout the semester. Two or three hours of laboratory work are equivalent to one hour of class work. Two semesters of seventeen weeks each constitute the academic year. For the degree of Bachelor of Arts or Bachelor of Science, credit for 124 semester hours is required; for a degree in Engineering, 148 semester hours.

The normal load of an undergraduate student in the Colleges of Arts and Sciences is five academic courses totaling 14 to 17 semester hours. The maximum number permitted is 19 semester hours, exclusive of physical education. In the College of Engineering the normal load is 18 semester hours exclusive of physical education. No student is permitted to take less than 14 semester hours of work without special permission from the dean or to take more than the normal load of work unless his average grade in the preceding semester is higher than C.

QUALITY CREDIT: The requirements for the degree are computed not only in semester hours but also in quality points. Quality points are determined by grades as follows: for an A, four quality points for each semester hour; for a B, three quality points for each semester hour; for a C, two quality points for each semester hour; for a D, one quality point for each semester hour; for an F, no quality points. Credit for at least 248 quality points is required for the degree of Bachelor of Arts or Bachelor of Science, and at least 296 quality points for a degree in Engineering.

REQUIREMENTS FOR CONTINUATION IN COLLEGE AND FOR GRADUATION FROM COLLEGE: To continue in college and to graduate, students must, in addition to the requirements listed elsewhere in this Bulletin, pass a minimum number of semester hours, achieve a specified quality point ratio, and in the case of graduation earn a minimum number of quality points. The quality point ratio is calculated by dividing the accumulated number of quality points earned by the accumulated number of semester hours carried (not semester hours passed). These requirements are listed in the following table:

For continuation from	The minimum requirement is
The first to the second year	18 s.h. credit and a q.p.r. of 1.2
The second to the third year	42 s.h. credit and a q.p.r. of 1.4
The third to the fourth year	66 s.h. credit and a q.p.r. of 1.6
The fourth to the fifth year, if needed	90 s.h. credit and a q.p.r. of 1.75
For graduation from	The minimum requirement is
Trinity and the Woman's College	124 s.h., 248 q.p. and a q.p.r. of 1.9
The College of Engineering	148 s.h., 296 q.p. and a q.p.r. of 1.9

The minimum standards for continuation in the College of Engineering are the same as those listed above but since the semester hour requirement for graduation in Engineering exceeds the requirement of the liberal arts colleges the standards may be adjusted to meet the special requirement of the college. Moreover, application of these standards is based on the courses required in the Engineering curriculum.

Students of the freshman class to remain in the University must pass at least 6 semester hours of work in their first semester and 18 semester hours in their first year. All other students must pass at least 9 semester hours each semester. The University may require a student whose record is considered unsatisfactory to withdraw, although he has met the minimum requirements set forth in this paragraph.

Reports on proficiency in academic work are sent to parents or guardians after the examinations at the end of each semester. In addition, reports on freshmen are mailed at each mid-semester period.

CLASS STANDING: In the Colleges of Arts and Sciences students to rank as sophomores must have to their credit at least 26 semester hours and 52 quality points; as juniors, at least 56 semester hours and 112 quality points; and as seniors, at least 92 semester hours and 184 quality points. In the College of Engineering they must have, respectively, at least 30 semester hours and 60 quality points; 68 semester hours and 136 quality points; and 106 semester hours and 212 quality points. Moreover, class standing within the College of Engineering is determined by the length of time necessary to complete the curriculum requirements for the particular degree in Engineering.

In the Colleges of Arts and Sciences seniors may not take for graduation credit any course open primarily to freshmen; and juniors may not take for graduation credit more than one course open primarily to freshmen. A list of these courses is published in this Bulletin under "Courses of Instruction."

Students of the senior class, irrespective of their average grade in preceding years, must, in order to be eligible for graduation, complete the work of their senior year with a minimum average grade of C. In the case of engineers the C average requirement applies not only to all courses taken in their last year but also to work specified for the senior year in their particular Engineering curriculum. Seniors who lack not more than 9 hours at the beginning of the last semester of their senior year may, with the approval of the Dean of the Graduate School, register for a maximum of 6 semester hours of graduate credit.

A tentative list of all candidates for the Bachelor's degree is prepared under the supervision of the dean as early in the college year as possible. A copy is furnished to each department of instruction

for information and reference, and a copy is posted on the official bulletin board of the University for the information of the students concerned.

RESIDENCE REQUIREMENTS: A minimum of 30 semester hours of senior-level work in the Colleges of Arts and Sciences and 36 in the College of Engineering must be earned in residence. Students who meet this requirement but who still lack 6 to 8 semester hours in final fulfillment of requirements may take this work in another institution of approved standing, provided the course is approved by the head of the department concerned and by the dean.

Students who complete in a summer session the work required by the University for the Bachelor's degree will be granted the degree at the end of the summer.

GRADING, ATTENDANCE, REPORTS, DISMISSAL, AND EXAMINATIONS:

GRADING: Grades are reported to indicate one of the following:

(1) *Passed.* A, B, C, and D are all passing grades. The letters are intended to indicate the following quality of work: A, exceptional; B, superior; C, medium; D, passing.

(2) *Failed.* A grade of F indicates that the student has failed the course, and in order to receive credit for the course he must repeat the work in class.

(3) *Incomplete.* (a) A grade of I may be reported by the instructor if for any reason he is unable to report the final grade at the regular time. (b) Incomplete courses must be completed before the close of the succeeding semester; otherwise the I is recorded as F, and the course must be repeated in class if the student is to receive credit for it.

(4) *Absent from final examination.* (a) The grade X indicates that the student was absent from the regularly scheduled examination. (b) If absence from the examination has been excused by the dean of the college, the student may receive an examination upon the payment of a fee of \$3.00 to the Treasurer of the University. The instructor concerned arranges for the examination in cases where absences are excused. (c) If absence from the examination is not excused by the dean of the college, the grade for the course concerned is recorded as F. (d) A student with an X grade who has not obtained a passing grade before the end of the semester following that in which the X was incurred is regarded as having failed in the course concerned and must repeat the work in class in order to receive credit.

If a student drops a course without permission from the dean, the grade for that course is recorded as F. If he drops with permission a course in which he is failing, the grade for that course is recorded as F unless, in the judgment of the dean, circumstances do not justify this penalty.

ATTENDANCE: Regular and punctual attendance in class work is expected of all students. Weekly reports of all absences, irrespective of class standing, are made by each instructor and filed in the dean's office. No instructor has the authority to excuse a student from class attendance; it is his duty to report all absences and tardies.

The requirements for continuation in college and for graduation from college emphasize the desirability of assumption by the student of responsibility for class attendance. Controls are exercised, therefore, during the first two years of college residence. Thereafter, full responsibility is placed on the student.

(1) *Regulations applicable during the first two years of college residence:* One unexcused absence per semester hour without penalty is allowed for personal obligations. Sophomores who in a normal schedule make averages of B or above in the preceding semester will be allowed two absences per semester hour for personal obligations, but will in all other respects be subject to the same regulations as other students.

The first three tardies in a given course are counted as one absence. Thereafter, each additional tardy is counted as one additional absence.

Absences due to illness when certified by a proper medical official will be excused. Absences due to authorized representation of the University may be excused. Officials in charge of groups representing the University are required to submit names of those persons to be excused to the appropriate dean's office forty-eight hours in advance of the hour when their absences are to commence. Absences due to individual and personal reasons will not be excused.

All absences immediately before and after announced holidays are counted as regular absences, but they result in a loss of two quality points for each absence in each class. Absences at the beginning of each semester are counted as double. Unexcused, consecutive absences, whether excessive or not, result in the loss of quality points as in the case of unexcused, excessive absences. Each excessive or consecutive absence results in the loss of quality points as follows: one quality point for the first absence, two additional for the second, and three additional for the third. When the third unexcused, excessive or consecutive absence occurs, the student is debarred from the course with a loss of six quality points and an F in the course. When the student has taken twelve absences, excused and unexcused, in any course he is required to drop the course unless the instructor and the dean concerned grant special permission for him to continue in the course.

When a student's course load is reduced, due to excessive absences, to less than 12 semester hours, he is required to withdraw from the University.

(2) *Regulations applicable after two years of college residence:* Responsibility for punctual and regular attendance is placed on juniors and seniors. However, for absences before and after announced holidays two quality points are deducted for each absence in each class. Instructors are expected to refer to the dean for appropriate action any student who in their opinion is causing his work or that of the class to suffer by virtue of absences or tardies.

EXAMINATIONS: Final examinations are held in all subjects in January and May.

DEFICIENCIES IN COMPOSITION: The following regulations have been adopted by the Faculty:

1. Any student who must take English 1 and whose score in the English placement test indicates that he is not yet ready for English 1 must earn a passing grade in English L before being permitted to enter English 1.

2. In the fall of the junior year every student of Trinity College and of the Woman's College must take an examination in English usage with the following exceptions: (a) students exempted from English 1 and (b) students who earned grades of at least B and C in English 1-2. The regulation does not apply to students of the College of Engineering, which has special course requirements in English composition in addition to English 1-2. Students with irregular schedules resulting from acceleration or transfer to Duke after the fall of their junior year should take the examination in the fall of the year most nearly approximating the fifth semester. In any event, all students with the exceptions noted above must take this examination; it is a requirement for graduation. If it is not taken in the junior year, it must be taken during the succeeding fall, or at such other time as may be designated by the appropriate authorities of the University. Students who are proved deficient by this examination will be required to complete satisfactorily a special non-credit laboratory course in remedial English.

3. Whenever the work of a student in any course is unsatisfactory because of errors in English, the instructor may report the student to the dean, who will require him to enroll in remedial English until, in the opinion of the director of the Remedial Laboratory, the deficiency is removed.

4. All instructors are requested to advise their students each semester concerning this regulation.

Requirements for Degrees



DUKE UNIVERSITY offers, in Trinity College, the Woman's College, and the College of Engineering, courses of study which lead to the degrees of: Bachelor of Arts; Bachelor of Science; Bachelor of Science in Civil, Electrical, or Mechanical Engineering; and Bachelor of Science in Nursing Education.

Bachelor of Arts

The requirements for the degree of Bachelor of Arts are based on the principle that the student will derive the maximum benefit from his college work if his program includes a broad distribution of studies among representative fields of culture, concentration within a special field, and some work of his own choice.

For graduation with the degree of Bachelor of Arts, the following course work must be completed in accordance with the academic regulations as stated in this Bulletin.

UNIFORM COURSE REQUIREMENTS	S.H.
English	6
Foreign Language	6-18
Natural Science	11
Religion	6
Social Science and History	12
Literature, Music, Art, and Philosophy	6
Physical Education	4
MAJOR AND RELATED WORK	42
ELECTIVES TO MAKE A TOTAL OF	124

These requirements are described in detail below. Descriptions of courses can be found under "Courses of Instruction, Trinity College and the Woman's College."

ENGLISH, 6 s.h.—This requirement is met by the completion of English 1-2. Students who demonstrate proficiency in English usage may be allowed to substitute 55 or 56 for English 1.

FOREIGN LANGUAGE, 6 to 18 s.h.—This requirement is met by the completion of the third college year of a foreign language. The languages which meet this requirement are French, German, Greek, Latin, and Spanish. The number of courses required depends on previous training and ability as shown on placement tests. Students presenting for entrance four units of Latin may satisfy the language requirement by the completion of the third college year of Latin or by two years of Greek. In exceptional cases, on the recommendation of the language department concerned and with the approval of the dean, a student who has completed the second college year of one language may satisfy the requirement by the completion of the first year of another language.

NATURAL SCIENCE, 11 s.h.—To satisfy this requirement a student must complete a laboratory course (8 s.h.) in one of the natural sciences (botany, chemistry, geology, physics, zoology), and one course of at least 3 semester hours selected from mathematics (except Mathematics 1), logic and scientific methodology (Philosophy 48 and 104), or from the sciences listed above.

RELIGION, 6 s.h.—To meet this requirement 6 semester hours must be chosen from Religion 1, 2, 51, 52, 91, 94, 101, 103, 104, 114, 130, 132, 135, 181, 182.

SOCIAL SCIENCE AND HISTORY, 12 s.h.—To satisfy this requirement a student must complete 12 semester hours from the following basic courses: Economics 51-52; Education 84; History 1-2, or 51-52; Political Science 11-12, or 61-62, or 63-64; Psychology 91 to be followed if desired, by either Psychology 100 or 101; or Sociology 91-92. Six of the 12 semester hours must be taken in economics, history, political science, or sociology. Students who do not present for entrance two acceptable units of history must take History 1-2 or 51-52.

LITERATURE, MUSIC, ART, AND PHILOSOPHY, 6 s.h.—This requirement can be satisfied by a total of 6 semester hours in courses in English or American literature, foreign literature courses numbered above 100, literature courses in translation, courses in aesthetics, art, and music, and courses in Philosophy except 48, 103, 104, 109, 199.

PHYSICAL EDUCATION, 4 s.h.—Physical education is required during each of the first two years and is normally completed by the end of the sophomore year.

MAJOR AND RELATED WORK, 42 s.h.—Prior to registration in the spring of his sophomore year, each student is required to choose his major field and confer with his departmental adviser about the requirements for major and related work.

The major work consists of 18 to 24 semester hours in one department above the introductory courses. Introductory courses may consist of two one-semester courses in all departments except the Departments of German, Latin, and Romance Languages where the introductory courses may consist of four one-semester courses. The choice of courses must be approved by the major department. The related work must be taken in at least two other departments and is selected subject to the approval of the major department and the dean; it may not include more than one course of 6 or 8 semester hours open primarily to freshmen. Courses satisfying the uniform course requirements may also be counted toward the requirements in major and related work. Information on specific departmental requirements for major and related work can be found at the end of the department offerings in the section "Courses of Instruction." Several programs of study designed as preparation for professions are given in the section below entitled "Choice of a Major Field."

The total amount of work that a student may take in any one department toward the Bachelor of Arts degree is limited to a maximum of 36 semester hours. In the Department of Aesthetics, Art, and Music, and the Department of Philosophy, the Department of English, the Department of Economics, Accounting and Business Administration, and the Department of Romance Languages, a total of 54 semester hours is permitted, however, provided a total of not more than 36 semester hours is taken in any one division of the department.

ELECTIVES.—In addition to the uniform courses required and the major and related work, other courses must be completed to make a total of at least 124 semester hours, including 4 semester hours of physical education.

Students whose courses of study permit may elect a maximum of 18 semester hours in engineering, forestry, or medical science. The courses elected in these subjects must be approved by the major department and the dean of the college.

CHOICE OF A MAJOR FIELD

The requirement of 42 semester hours distributed, as specified above, between a major field and related work is based primarily on the belief that some advanced study in one subject, together with work in allied subjects, is a valuable part of a general education. The

selection of a major field usually depends on a student's cultural or vocational interests.

GENERAL PROGRAM

The General Program is designed for the student whose primary interest is in one of the liberal arts subjects. The subjects in which major work is offered are: art, botany, chemistry, economics, education, English, French, geology, German, Greek, history, Latin, mathematics, music, philosophy, physics, political science, psychology, religion, sociology, Spanish, zoology.

SPECIALIZED PROGRAMS

The student who has chosen a vocation may wish to include specialized training in his program. The following programs of study in preparation for various professions or professional schools are outlined for the guidance of the student.

BUSINESS: The student who plans to enter business may elect, in addition to the uniform course requirements, the following courses to satisfy the requirements for the Bachelor of Arts degree.

Freshman Year: Economics 11 (recommended but not required).
Mathematics 5 (recommended but not required).

Sophomore Year: Economics 51-52, Economics 57-58.

Junior Year: Economics 105, Economics 138, Economics 143, Economics 168, Economics 181, and one course selected from the following: Economics 144, Economics 147, Economics 158, Economics 182.

Senior Year: Economics 153, Economics 188, Economics 191, and one course selected from the Economics group numbered above 100.

ACCOUNTING: A student who plans to qualify to take the Certified Public Accountant's examination should elect the following courses of study:

Freshman Year: Economics 57-58 (may be taken at this time with the permission of the department).

Sophomore Year: Mathematics 5 and 16 (recommended but not required).
Economics 51-52, Economics 171-172.

Junior Year: Economics 143, Economics 153, Economics 173-174, Economics 181, 182.

Senior Year: Economics 144 or Economics 184, Economics 275-276, and two courses from the following: Economics 175-176, Economics 177, Economics 178, Economics 180.

A student who does not take Economics 57-58 in the Freshman Year must take the course in the Sophomore Year and must make the necessary adjustments in the sequence of subsequent accounting courses.

Students majoring in accounting are urged to familiarize themselves with the educational requirements of the State in which they expect to practice.

RELIGIOUS WORK: A student who plans to enter the ministry or other religious work should have a broad liberal arts training. He

may major in religion or any other subject. It is suggested that the student include in his program as many as possible of the following courses.

Freshman Year: Religion 1-2, History 1-2.

Sophomore Year: Religion (6 s.h.), Economics 51-52 or Political Science 61-62, English Literature (6 s.h.).

Junior Year: Religion (6 s.h.), Psychology 91, English 151-152.

Senior Year: Religion (6 s.h.), Sociology (6 s.h.), Philosophy (6 s.h.).

SOCIAL WORK: The student who plans to pursue professional studies in preparation for social work (such as family welfare, child welfare, public welfare, probation and parole, and similar forms of neighborhood and community work) should take his major work in sociology, with related work in other social sciences. The following courses should be included:

History 1-2, or 51-52.

Economics 51-52.

Political Science 61-62.

Psychology 91.

Philosophy (6 s.h.).

Zoology is recommended for the required course in Natural Science. Electives should be chosen mainly from history, economics, political science, education, sociology, philosophy, psychology, or religion.

TEACHING: The program for students who intend to teach is designed to prepare for positions both in the elementary school and in the high school. All prospective teachers, regardless of the type of school in which they expect to teach, (a) must take a sequence of four basic courses in the Department of Education, namely, Education 84, 88, 103, and 118; (b) should read carefully the certification requirements of the state in which they plan to teach and should arrange their programs with their departmental advisers accordingly; and (c) should begin early the required sequence of courses in education, taking Education 84, preferably during the sophomore year and Education 88 during the junior year.

HIGH-SCHOOL TEACHING. Students may meet certification requirements by qualifying in one teaching subject, but they are strongly advised to choose their electives to meet requirements in two teaching subjects. In any case their programs must include courses in education and in other subjects sufficient to satisfy the certification requirements of the state in which they will teach. Courses in materials and methods should be taken during the junior year; and courses in observation and practice teaching may be taken *only* in the senior year.

ELEMENTARY SCHOOL TEACHING. Students preparing to teach in the elementary school must complete the following specific requirements: Education 101-102, 142, and 161, History 91-92, and Political Science 11-12, or 63, or 61-62, Economics 115, Economics 109, or 118, or 120, Music 151, Physical Education 102, and Health Education 112.

Education 101-102 (which includes observation and practice teaching) should be reserved for the senior year.

PREPARATION FOR GRADUATE SCHOOL: The student who plans to enter a graduate school of arts and sciences for advanced study should consult an adviser in the field of the proposed advanced study concerning suitable preparation. Most graduate schools have definite requirements in foreign languages for all students. Candidates for the degree of Doctor of Philosophy are required to pass reading examinations, usually in German and French. In some cases other languages may be substituted. As soon as practicable, the student should ascertain the requirements of the particular graduate school he desires to enter.

PREPARATION FOR LAW SCHOOL: Students who plan to study law may select their major work in any field. The following courses are recommended:

Economics 51-52, 57-58.
 English 55-56.
 History 1-2 or 51-52, 105-106.
 Philosophy 48 and 91.
 Political Science 61-62.
 Sociology 91-92.

PREPARATION FOR MEDICAL OR DENTAL SCHOOL:

Students planning to enter a medical or dental school should plan their programs of study from the first semester so as to include those courses required by the Medical Schools of their choice. Foundation courses for the study of medicine usually include: Chemistry 1-2, 61, 151-152; English 55-56; Mathematics 5, 6; Physics 51-52; and Zoology 1-2, 53.

Special advisers are available for pre-medical and pre-dental students. The names of these advisers may be secured at the dean's office.

Bachelor of Science

For graduation with the degree of Bachelor of Science, the following course work must be completed in accordance with the academic regulations as stated in this Bulletin.

UNIFORM COURSE REQUIREMENTS	S.H.
English	6
French and German (second college year)	12-24
Mathematics	6
Natural Science	8
Economics, History, or Political Science	6
Religion	6
Restricted Elective	6
Physical Education	4
MAJOR AND RELATED WORK	48
ELECTIVES TO MAKE A TOTAL OF	124

These requirements are described below. Description of courses can be found under "Courses of Instruction, Trinity College and the Woman's College."

ENGLISH, 6 s.h.—This requirement is met by the completion of English 1 and 2. Students who demonstrate proficiency in English usage may be allowed to substitute English 55 or 56 for English 1.

FRENCH AND GERMAN.—Bachelor of Science candidates must normally complete at least the second college year, or equivalent as determined by examination, of both French and German. In special cases, with the permission of the major department and the dean, this requirement may be met by completing the third year of French or German.

MATHEMATICS, 6 s.h.—This requirement may be met by completion of Mathematics 5 and 6.

NATURAL SCIENCE, 8 s.h.—This requirement can be satisfied by courses in one of the natural sciences, namely, botany, chemistry, geology, physics, and zoology. The courses must include laboratory work, and may not be counted as part of the major or related work.

SOCIAL SCIENCE AND HISTORY, 6 s.h.—A student who does not present for entrance two acceptable units of history (exclusive of other social studies) must take a course in history; otherwise, he has his choice of economics, history, or political science.

RELIGION, 6 s.h.—To meet this requirement 6 semester hours must be chosen from Religion 1, 2, 51, 52, 91, 94, 101, 103, 104, 114, 130, 132, 135, 181, 182.

RESTRICTED ELECTIVE, 6 s.h.—To meet this requirement 6 semester hours in addition to other uniform course requirements must be selected from aesthetics, art, economics, education, English, foreign language, history, music, philosophy, political science, religion, and sociology.

MAJOR AND RELATED WORK, 48 s.h.—Major and related work consists of 48 semester hours in the Natural Sciences. This work must be selected from the departments of botany, chemistry, geology, mathematics, physics, psychology, and zoology. The major work consists of not less than 24 semester hours in one department, the choice of courses being subject to the approval of the department. The major work does not include courses primarily open to freshmen. The related work is taken in at least two other departments and is selected subject to the approval of the major department. It may not include more than one course primarily open to freshmen. A minimum of 14 semester hours of related work is required, 8 hours of which must be in laboratory science. Further information concerning the requirements for the major and related work in the various departments will be found at the end of the department offerings in the section "Courses of Instruction."

ELECTIVES.—In addition to the above, the student must elect sufficient courses to complete, with an average grade of "C," the 124 semester hours necessary for graduation.

Students whose courses of study permit may elect a maximum of 18 semester hours in engineering, forestry, or medical science. The courses elected in these subjects must be approved by the major department and the dean of the college.

The total amount of work that a student may take in any one department toward the Bachelor of Science degree is limited to a maximum of 40 semester hours.

On or before the date announced for the spring registration, every sophomore in this group should select his major department in the Natural Sciences and arrange, under the guidance of an adviser in the major department, his program of studies for the following year. He should obtain the adviser's written approval of all courses selected in

the division before submitting his program to the dean for final action. In like manner, each upperclassman will recheck the courses in his division of concentration each year with a representative of his major department.

Bachelor of Science in Civil, Electrical, or Mechanical Engineering

The studies for degrees in Engineering, designed for students who are preparing for civil, electrical, or mechanical engineering as a profession, lead to the following degrees: B.S. in C.E., B.S. in E.E., and B.S. in M.E. All curricula of the College of Engineering are fully accredited by the Engineers' Council for professional development.

Recognizing the desirability of combining a maximum of liberal arts studies with professional engineering training, the College of Engineering has developed a special plan of cooperation with approved liberal arts colleges. Under this plan, which is often called the three-two plan, an outstanding student may follow an approved program of study at a cooperating liberal arts college for an initial period of three years and then complete his studies at the College of Engineering in two more years. At the end of the total period of five years, a degree of Bachelor of Arts or Bachelor of Science is granted by the liberal arts college, and a degree of Bachelor of Science in a designated branch of engineering by the College of Engineering. Inquiries concerning this plan should be addressed to the Dean, College of Engineering, Duke University.

GROUPS OF STUDIES FOR THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL, ELECTRICAL, OR MECHANICAL ENGINEERING

See the *Bulletin of the College of Engineering* for courses substituted by Air Force ROTC and Naval ROTC students in the following curricula:

Uniform Freshman Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
Math	5	College Algebra	3	Math	50	Analytic Geometry	3
Math	6	Trigonometry	3	Math	51	Calculus I	3
Chem	1	Chemistry	4	Chem	2	Chemistry	4
Engl	1	English	3	Engl	2	English	3
Hist	E1	History	3	Hist	E2	History	3
GE	1	Drawing	2	GE	2	Descriptive Geometry	2
		Physical Education	1			Physical Education	1
			19				19

GROUP ONE

CIVIL ENGINEERING

Sophomore Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
Math	52	Calculus II.....	3	Math	53	Calculus III.....	3
Phys	51	Physics.....	5	Phys	52	Physics.....	5
Econ	51	Economics.....	3	Econ	52	Economics.....	3
GE	57	Statics.....	3	GE	107	Strength of Materials....	3
CE	61	Surveying.....	4	CE	62	Surveying.....	4
		Physical Education.....	1			Physical Education.....	1
			19				19

Junior Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
Engl	E93	Advanced Composition.....	3	Engl	151	Public Speaking.....	3
GE	58	Dynamics.....	3	GE	128	Hydraulics.....	3
CE	131	Structures.....	5	CE	132	Structures.....	5
CE	113	Route Surveying.....	3	CE	118	Materials.....	3
EE	123	Electric Circuits.....	4	EE	124	Electric Machinery.....	4
			18				18

Senior Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
CE	123	Water Supply.....	4	CE	124	Water Purification.....	3
CE	135	Soils.....	3	CE	116	Highways.....	3
CE	133	Reinforced Concrete....	4	CE	140	Indeterminate Structures..	3
ME	103	Heat Power.....	3	ME	104	Heat Power.....	3
ME	115	Mech. Eng. Laboratory... 1		ME	116	Mech. Eng. Laboratory... 1	
		Approved Electives.....	3			Approved Electives.....	5
			18				18

GROUP TWO

ELECTRICAL ENGINEERING

Sophomore Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
Math	52	Calculus II.....	3	Math	53	Calculus III.....	3
Phys	51	Physics.....	5	Phys	52	Physics.....	5
Econ	51	Economics.....	3	Econ	52	Economics.....	3
GE	57	Statics.....	3	ME	52	Kinetics—Mechanism....	4
EE	51	Survey of Electrical		EE	52	Fields.....	3
		Engineering.....	1			Physical Education.....	1
Engl	E93	Advanced Composition...	3				19
		Physical Education.....	1				
			19				

Junior Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
EE	101	Circuits	3	EE	102	Circuits	3
EE	107	Circuits Laboratory	1	EE	108	Circuits Laboratory	1
EE	105	Measurements	4	EE	106	Electronics	4
Math	131	Differential Equations	3	EE	148	D-C Machinery	3
ME	103	Heat Power	3	ME	104	Heat Power	3
ME	115	Mech. Eng. Laboratory	1	ME	116	Mech. Eng. Laboratory	1
GE	128	Hydraulics	3	Engl	151	Public Speaking	3
			18				18

Senior Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
EE	257	A-C Machinery	3	EE	258	A-C Machinery	3
EE	163	Machinery Laboratory	1	EE	164	Machinery Laboratory	1
EE	261	Communications	4	EE	262	Communications	4
EE	165	Seminar	1	EE	166	Seminar	1
EE	159	Transmission	3	GE	107	Strength of Materials	3
		Approved Electives	6	GE	109	Materials Laboratory	1
			18			Approved Electives	5
							18

GROUP THREE

MECHANICAL ENGINEERING

Sophomore Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
Math	52	Calculus II.....	3	Math	53	Calculus III.....	3
Phys	51	Physics.....	5	Phys	52	Physics.....	5
Econ	51	Economics.....	3	Econ	52	Economics.....	3
GE	57	Statics.....	3	ME	52	Kinetics-Mechanism.....	4
ME	53	Materials.....	3	Engl	E93	Advanced Composition.....	3
ME	57	Processes.....	2			Physical Education.....	1
		Physical Education.....	1				19
			20				

Junior Year

FIRST SEMESTER			SECOND SEMESTER				
		S.H.			S.H.		
ME	101	Thermodynamics.....	3	ME	102	Thermodynamics.....	3
ME	113	Mech. Eng. Laboratory...	1	ME	114	Mech. Eng. Laboratory...	2
ME	105	Fluid Mechanics.....	3	ME	108	Aeronautics.....	3
GE	107	Strength of Materials....	3	ME	106	Heat Transfer.....	3
GE	109	Materials Laboratory.....	1	ME	150	Machine Design.....	3
EE	123	Electric Circuits.....	4	EE	124	Electric Machinery.....	4
Engl	151	Public Speaking.....	3				18
			18				

Senior Year

FIRST SEMESTER				SECOND SEMESTER			
			S.H.				S.H.
ME	151	Machine Design.....	4	ME	158	Industrial Engineering....	3
ME	155	Internal Combustion Engines.....	3	ME	162	Power Plants.....	3
ME	153	Heating—Air Conditioning	3	ME	154	Refrigeration.....	3
ME	159	Mech. Eng. Laboratory...	2	ME	160	Mech. Eng. Laboratory...	2
Approved Electives.....			6	Approved Electives.....			6
			18				17

Bachelor of Science in Nursing Education

The requirements for the degree of Bachelor of Science in Nursing Education are designed to prepare qualified graduate nurses for administrative, teaching, and supervisory positions in schools of nursing and in nursing service agencies.

To be eligible for admission to Duke University as a candidate for this degree a student must meet the following requirements:

1. Graduation from an approved secondary school with at least fifteen acceptable units of credit. (See specific requirements for admission to Trinity College and the Woman's College.)
2. Graduation from an approved school of nursing which provides satisfactory preparation in medical, surgical, pediatric, and obstetric nursing, as a minimum (psychiatric nursing is desirable).
3. Satisfactory scores on specified tests.
4. Supervisory ratings from three individuals, preferably former teachers and supervisors with whom the individual has had fairly recent contact.

Credit for 120 semester hours (exclusive of physical education) which must average a grade of at least C is required for the degree of Bachelor of Science in Nursing Education. The work of the final year must be taken in residence at Duke University. The program of studies leading to this degree must include:

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 1. MINIMUM GENERAL EDUCATION REQUIREMENTS..... | S.H.
38-50 |
| May be taken at Duke University or at any accredited college or university. | |
| English 1-2 | 6 |
| *Natural science | 8 |
| History (1-2 or 51-52) | |
| Economics (51-52) | 6 |
| Political Science (61-62) | |
| Sociology (91-92 or 101) | 3-6 |
| Psychology (91, 100 or 101) | 3-6 |
| †Electives | 12-18 |
| 2. BASIC NURSING PROGRAM..... | maximum 40 |
| May be taken at the Duke School of Nursing or at any approved school of nursing. The amount of credit which is granted for the nursing school program is determined on an individual basis. | |
| 3. COURSES IN EDUCATION AND NURSING EDUCATION..... | 3 |
| 88 Psychological Foundation of Modern Education..... | 3 |

* Botany 1-2, Chemistry 1-2, Geology 51-52, Physics 1-2, Zoology 1-2.

† Literature, art, music, religion, ethics, language are suggested.

118 Educational Psychology—Psychological Development.....	3
84N Social Foundations of Nursing Education.....	3
101N The Curriculum of the School of Nursing.....	3
115-116N Nursing Education: Principles and Practices.....	8
117 Community Nursing Service—Seminar in Field Trips to Community Agencies	3
4. FIELD OF CONCENTRATION.....	15
Fifteen semester hours in one field, such as chemistry, physics, psychology, sociology, zoology, or in a clinical area in conjunction with related subjects. No freshman work may be included in these 15 semester hours.	
5. PROFESSIONAL EXPERIENCE	
One year of experience as a graduate nurse is required before the degree is awarded.	

Academic-Professional Courses

The provision whereby a senior may elect the work of the first year in a professional school of the University shall apply solely to eligible students in Trinity College or the Woman's College. The privilege of completing a combined course for the degree is conditioned upon admission to the professional school at the close of the junior year. A student thus admitted registers as a senior in the College and as a first-year student in the professional school.

ACADEMIC-FORESTRY COMBINATION

A student who has completed the program of study given below with an average grade of C or higher in accordance with the academic regulations as stated in this Bulletin may, with the approval of the Dean of the College and the Admissions Committee of the School of Forestry, transfer to the School of Forestry. Upon the satisfactory completion of the work of the first year in the School of Forestry the student may become eligible for the degree of Bachelor of Science from Trinity College, Duke University. This provision shall apply solely to eligible undergraduates who have completed three years in residence at Duke University.

Students wishing information concerning admission to the School of Forestry are invited to consult with the dean of that school. Completion of the first three years of work necessary to qualify for the Academic-Forestry Combination does not insure admission to the Duke University School of Forestry, nor impose any restriction upon the School's freedom in selecting students for admission. The professional degree of Master of Forestry may be obtained upon the satisfactory completion of the work of the second year in the School of Forestry.

The program of studies in preparation for admission to the School of Forestry under the combination program includes the following work:

UNIFORM COURSE REQUIREMENTS

	S.H.
Uniform Course Requirements for the B.S. Degree	48-66
Additional Required Courses	24-26
Electives to Make a Total of	94
Summer Field Work	13

These requirements are described in the Requirements for the Bachelor of Science degree in this Bulletin. Spanish may be substituted for French in the foreign language requirement. The natural science requirement is met by completion of Botany 1-2. The economics, history, or political science requirement is met by completion of Economics 51-52. The student who does not present for entrance two acceptable units in history must meet the restricted elective requirement by completion of 6 semester hours in history.

ADDITIONAL REQUIRED COURSES.—The additional required courses are as follows:

	S.H.
Chemistry 1-2	8
Engineering Drawing 1-2	4
Geology 51	4
Physics 1-2 or 51-52	8-10
	<u>24-26</u>

ELECTIVES.—The electives are normally chosen from botany, chemistry, economics, mathematics and philosophy. A minimum of 94 semester hours must be obtained, exclusive of summer field work, to meet uniform course requirements, additional required courses, and electives.

SUMMER FIELD WORK.—This work of 13 weeks, preferably to be taken upon completion of the junior year, includes:

	S.H.
Civil Engineering S110. Plane Surveying	4
Forestry S150. Forest Surveying	5
Forestry S151. Forest Mensuration	4
	<u>13</u>

Students in this combination should have their programs approved by the special adviser for students in the Academic-Forestry Combination. The name of this adviser may be obtained at the dean's office.

ACADEMIC-LAW COMBINATION

A student who has completed with an average grade of C or higher, 96 semester hours of undergraduate work, including the uniform course requirements for the degree of Bachelor of Arts and the work of the junior year in his major and related fields, may, with the approval of the dean of the College, transfer to the Duke University School of Law and be eligible for the degree of Bachelor of Arts from Duke University upon the satisfactory completion therein of the work of the first year.

It is understood that this provision shall apply solely to eligible undergraduates who have completed three years in residence in Duke

University, and that not less than the full first-year's work of the Law School will be acceptable for credit towards the bachelor degree.

No single discipline or program of study can be described as the best preparation for the study of law since there are various methods of approach to legal study.

Completion of the undergraduate work necessary to qualify for the Academic-Law Combination does not insure admission to the Duke University School of Law, nor impose any restriction whatever upon its freedom in selecting students for admission. Students wishing further information are invited to consult with the Dean of the School of Law.

ACADEMIC-NURSING COMBINATION

A student who completes the three-year nursing program with an average grade of C or better may, upon recommendation of the Dean of the School of Nursing, apply for admission to the Woman's College of Duke University. If accepted, she may obtain the degree of Bachelor of Arts or Bachelor of Science by fulfilling the requirements of either degree.

Forty semester hours of credit toward the 120 semester hours (exclusive of physical education) required for the Bachelor's degree are allowed for the three-year nursing program. At least 30 semester hours, of which 24 semester hours must be in courses numbered 100 or above, must be taken in residence in the Woman's College. An average grade of C or better is required for all work.

The program of studies leading to the degree of Bachelor of Arts must include:

	S.H.
1. UNIFORM COURSE REQUIREMENTS	47-59
English 1-2	6
Language (completion of the third college year)	6-18
Natural Science	11
Religion	6
Social Science and History	12
Literature, Music, Art, and Philosophy	6
2. BASIC NURSING PROGRAM	40
3. FIELD OF CONCENTRATION	12
At least 12 semester hours in one department other than nursing in courses not primarily open to freshmen	12
4. ELECTIVES	9-21

To be eligible for the degree of Bachelor of Science, a student must complete the course of study outlined under the Requirements for the Degree of Bachelor of Science.

Courses of Instruction

Trinity College and the Woman's College



NOTE: Courses primarily for freshmen are numbered from 1 to 49; those primarily for sophomores are numbered from 50 to 99; those primarily for juniors and seniors from 100 to 199; those primarily for seniors and graduates from 200 to 299. The amount of credit for each course is given in semester hours following the description of the course.

The designation (w) or (E) indicates that the course is to be given on the West Campus or on the East Campus. The designation E means Engineering; L, LAW; DS, Divinity School. When this designation precedes a course number, the course is not approved for graduate credit.

Odd-numbered courses are offered in the fall semester, and even-numbered courses are offered in the spring semester. Double numbers separated by a hyphen indicate that the course is a year-course and must normally be continued throughout the year if credit is received. A student must secure written permission from the instructor in order to receive credit for either semester of a year-course. Double numbers separated by a comma indicate that although the course is a year-course credit may be received for either semester without special permission.

COURSES OPEN PRIMARILY TO FRESHMEN

Air Science 1-2	Latin 1-2, 3, 4
Art 1-2, 1L-2L	Mathematics 1, 5, 6, 16
Botany 1, 2	Music 1-2, 11-12, 47-48
Chemistry 1-2	Naval Science 101, 102
Economics 11	Philosophy 48, 49
Education 1, 5	Physical Education 1, 2
English 1-2	Physics 1-2
French 1-2, 3-4	Political Science 11-12
German 1-2, 3-4	Religion 1, 2
Greek 1-2, 15	Spanish 1-2, 3-4
Health Education 41	Zoology 1, 2
History 1, 2, E1-2	

AESTHETICS, ART, AND MUSIC

PROFESSOR PATRICK, CHAIRMAN; ASSOCIATE PROFESSOR SUNDERLAND, DIRECTOR OF UNDERGRADUATE STUDIES IN ART; ASSOCIATE PROFESSOR HALL, SUPERVISOR OF FRESHMAN INSTRUCTION IN ART; ASSISTANT PROFESSOR JULIA W. MUELLER, DIRECTOR OF UNDERGRADUATE STUDIES IN MUSIC; ASSOCIATE PROFESSOR BONE, SUPERVISOR OF FRESHMAN INSTRUCTION IN MUSIC; ASSOCIATE PROFESSORS JENKINS, MARKMAN, AND EARL G. MUELLER; ASSISTANT PROFESSORS BRYAN, HANKS, KLENZ, SAVILLE, AND WITHERS; MR. ANDREWS, MRS. BERNSTEIN, MR. BRODERSON, MRS. MCCALL, MESSRS. STARS AND WOOD

AESTHETICS

121. THE PRINCIPLES OF ART CRITICISM.—The development of criteria for making sound critical judgments based on analyses of painting, sculpture, architecture, and design. 3 s.h. (E)

PROFESSOR PATRICK

FOR SENIORS AND GRADUATES

202. **PHILOSOPHY OF ART.**—A study of some fundamental issues in aesthetics, with particular reference to the fields of literature, music, and painting. Problems discussed include: the nature and purposes of the arts; meaning in the arts; art and morality; the role of standards in art criticism; aesthetic judgment; interpretation and evaluation. 3 s.h. (E) ASSISTANT PROFESSOR WELSH

221-222. **HISTORY OF AESTHETICS.**—Theories of art and beauty in the western world from antiquity to the present. Some attention will be given the developed theories of aesthetics in the Far East. (Formerly 213-214) 6 s.h. (E) PROFESSOR PATRICK

ART

HISTORY OF ART

1-2. **INTRODUCTION TO ART HISTORY.**—A historical survey of the development of architecture, sculpture, painting, and the minor arts as material manifestations of the culture of the western world from ancient to modern times, with some reference to primitive, Oriental, and other non-western cultures. The visual arts as a record of a whole civilization. The course will provide the student with terminology and principles necessary to formation of judgments. Open only to freshmen; others, see Art 51-52. 6 s.h. (E & W) STAFF

51-52. **INTRODUCTION TO ART HISTORY.**—A historical survey of the development of architecture, sculpture, painting, and the minor arts as material manifestations of the culture of the western world from ancient to modern times, with some reference to primitive, Oriental, and other non-western cultures. The visual arts as a record of a whole civilization. The course will provide the student with terminology and principles necessary to formation of judgments. The aims of this course are identical with those of Art 1-2; the content and method are adapted to the capacities of upperclassmen. Open only to upperclassmen who have not completed Art 1-2. A senior in his last semester may receive credit for one semester. 6 s.h. (E & W) STAFF

131. **THE ARCHITECTURE OF ANTIQUITY AS CULTURAL EXPRESSION.**—The course will illustrate by means of the major architectural works of Egypt, Mesopotamia, the Aegean world, Greece, and Rome the basic ideas underlying the formation and development of the western tradition: The hope for the Eternal Life—tomb architecture in Egypt; Anthropomorphism and Greek rationale—temple architecture; the World State, a unified humanity; and Roman engineering architecture. 3 s.h. (W) ASSOCIATE PROFESSOR MARKMAN

132. **ANCIENT SCULPTURE AND PAINTING.**—The visual arts of sculpture and painting as showing a more introspective and detailed expression of the ideas which motivate cultural processes. The sculpture of Egypt and Mesopotamia, the vase and mural painting of the Aegean world, the sculpture and sculptors of the Greeks, and Roman reliefs and portraits will be emphasized. Greek vase painting and Pompeian mural painting will be discussed more briefly and in relationship to the psychological concept of space and its rendering in two-dimensional media. 3 s.h. (W) ASSOCIATE PROFESSOR MARKMAN

133. **MEDIAEVAL ARCHITECTURE.**—A survey of Christian architecture in the Near East, the Balkans, Russia, and western Europe from the beginnings of the mediaeval style in the late classical period to its disintegration in the fifteenth century. (Formerly 101) 3 s.h. (E) ASSOCIATE PROFESSOR SUNDERLAND

134. **MEDIAEVAL PAINTING AND SCULPTURE.**—A study of painting, including mosaics, manuscripts, stained glass, and sculpture, in western Europe from the late classical period through the fourteenth century. (Formerly 102) 3 s.h. (E) ASSOCIATE PROFESSOR SUNDERLAND

135. **RENAISSANCE ARCHITECTURE.**—A study of the early phases of the new style based on design elements taken from ancient Rome which replaced the dying Gothic style in Italy in the fifteenth century and in the rest of western Europe in the sixteenth century. 3 s.h. (E) ASSOCIATE PROFESSOR SUNDERLAND

137. ITALIAN RENAISSANCE PAINTING AND SCULPTURE.—The evolution of art forms in Italy during the fifteenth and sixteenth centuries with emphasis on the art of Florence, Rome, and Venice. The relation of art forms to humanism and the culture of the period. (Formerly 123) 3 s.h. (E)

ASSOCIATE PROFESSOR JENKINS

136. NORTHERN RENAISSANCE ART.—A study of book illumination, panel painting, graphic arts, and sculpture as expressions of literary, religious, and philosophical ideas of the fifteenth and sixteenth centuries in the Low Countries, Germany, and France. The formation of the northern realistic tradition in late Gothic Art and the relationship of the North with the Italian Renaissance will be developed in detail. Some emphasis will be placed on individual artists such as the Van Eycks, Van der Weyden, Bouts, Van der Goes, Bosch, Bruegel, Grünewald, and Dürer. (Formerly 125) 3 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER

138. EUROPEAN ARCHITECTURE 1550-1750.—A study of the alteration of the High Renaissance ideal by Mannerist and Baroque designers in Italy, and the consequences for the rest of western Europe, especially for absolutist France and parliamentary England. 3 s.h. (E)

ASSOCIATE PROFESSOR HALL

140. BAROQUE PAINTING AND SCULPTURE.—The styles of the seventeenth and eighteenth centuries in European countries as examples of the international culture of the period. An analysis of the great masters. (Formerly 126) 3 s.h. (E)

ASSOCIATE PROFESSOR JENKINS

139. THE RISE OF CONTEMPORARY ARCHITECTURE.—A study of the sources and evolution of the architecture of today, from the eighteenth century conflict between Romantic Historicism and Industrialism to the work of Gropius, LeCorbusier, Wright, and their successors. (Formerly 105) 3 s.h. (E)

ASSOCIATE PROFESSOR HALL

142. MODERN PAINTING AND SCULPTURE.—The development of European painting and sculpture from the period of the French Revolution to the present. Introduction to parallel and contemporary trends in the United States. (Formerly 129 and 130) 3 s.h. (E)

PROFESSOR PATRICK

141. AMERICAN ART.—A survey of architecture, sculpture, and painting in America from the time of the first settlers to the present day, including a consideration of the contributions of the English, Dutch, French, and Spanish to the artistic heritage of the United States. (Formerly 94) 3 s.h. (E)

ASSOCIATE PROFESSOR SUNDERLAND

143. THE HISTORY OF PRINTS AND DRAWINGS.—A historical and critical study of drawings and prints from the fifteenth century to the present with reference to functions, values, and relationships to other forms such as painting, sculpture, and the book. (Formerly 133) 3 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER

FOR SENIORS AND GRADUATES

215. RELIGIOUS ART OF THE ANCIENT NEAR EAST.—A specialized study of the development of art, particularly architecture and sculpture, as the material expression of religious ideas in Egypt, Mesopotamia, and in part of Syria and Palestine, to the Persian conquest. 3 s.h. (W)

ASSOCIATE PROFESSOR MARKMAN

216. RELIGIOUS ART OF THE CLASSICAL WORLD.—A specialized study of the religious art, particularly architecture and sculpture, of Greece and Rome, with special emphasis on the monuments in the Near East. 3 s.h. (W)

ASSOCIATE PROFESSOR MARKMAN

217. AEGEAN ART.—A study of the problems of Aegean art as the forerunner of Greek art and in relation to the contemporary civilization of the eastern Mediterranean world. 3 s.h. (W)

ASSOCIATE PROFESSOR MARKMAN

218. EARLY GREEK ART.—A study of the problems of the origin and development of Greek art in the Geometric period to the end of the Archaic. 3 s.h. (W)

ASSOCIATE PROFESSOR MARKMAN

233. **EARLY MEDIAEVAL ARCHITECTURE.**—The development of religious architecture from the time of Constantine to the end of the First Romanesque style in the third quarter of the eleventh century. 3 s.h. (E)

ASSOCIATE PROFESSOR SUNDERLAND

234. **ROMANESQUE SCULPTURE.**—The development of sculpture in western Europe from the early Christian period through the culmination of Romanesque art in the west portal of Chartres Cathedral. 3 s.h. (E)

ASSOCIATE PROFESSOR SUNDERLAND

240. **ARCHITECTURE OF NORTH AMERICA.**—A study illustrating the transplantation of European architectural customs since the sixteenth century; the time-lag in transit and acceptance of later European developments; the gradual assumption of confident independence in design; and the emergence of international leaders in the United States. (Formerly 106) 3 s.h. (E)

ASSOCIATE PROFESSOR HALL

DESIGN

Students other than art majors may receive not more than eight semester hours credit for work in studio courses. For any number of semester hours of credit in studio courses an equal number of hours must be taken in History and Criticism. The introductory courses 1L-2L or 51L-52L are prerequisite for all courses in Design.

1L-2L. **DESIGN LABORATORY.**—This course aims to develop the student's visual faculty through practice with design elements and experience with media. Freshmen intending to elect further courses in Art are advised to carry this course concurrently with Art 1-2. Open only to freshmen enrolled in Art 1-2; others, see Art 51L-52L. 2 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER; MR. BRODERSON

51L-52L. **DESIGN LABORATORY.**—The aims, content, and method of this course are similar to those of Art 1L-2L. Upperclassmen intending to elect further courses in Art are advised to carry this course concurrently with Art 51-52. Open only to upperclassmen enrolled in Art 51-52, and to those who have completed Art 1-2 or 51-52 without electing Design Laboratory. A senior in his last semester may receive credit for one semester. 2 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER; MR. BRODERSON

53-54. **BEGINNING STUDIO.**—A studio course offering experiment and practice with formal elements of composition in various media. Particular emphasis will be given to drawing; watercolor, collage, and three-dimensional media will be secondarily considered. 4 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER; MR. BRODERSON

55, 56. **PAINTING.**—A studio course designed to give experience in painting media with individual and group criticism, and discussion of important historic or contemporary ideas in painting as related to student work. Prerequisite: Art 53-54 or consent of the instructor. 4 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER; MR. BRODERSON

157, 158. **ADVANCED PAINTING.**—Emphasis is given to the techniques of various painting and design media. Prerequisite: 55, 56. 4 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER; MR. BRODERSON

159, 160. **PRINTMAKING.**—This course presupposes a knowledge of design and skill in drawing. Practice in wood engraving; block printing; and in copperplate engraving, etching, aquatint, and drypoint. Reference will be made to prints in relation to the design of the book, and historic examples of the art of the print will be analyzed in the study of these techniques. Prerequisite: 53-54. 4 s.h. (E)

ASSOCIATE PROFESSOR E. MUELLER; MR. BRODERSON

DEPARTMENTAL MAJOR IN ART

Prerequisite: Introduction to Art History (1-2 or 51-52); or, with the approval of the Director of Undergraduate Studies, equivalent hours in 100 level courses which form a background for the History of Art.

Major Requirements: The student will select in consultation with the departmental adviser a sequence of courses emphasizing either the History of Art or Design.

a. History of Art: 24 semester hours which must include courses at the 100 level distributed over the entire field of Art History, and a concentration of courses in at least two areas.

b. Design: 22 semester hours, of which 16 must be in Design and 6 from courses in the History of Art and Theory.

Related Work: 18 hours which must include work in the field of Aesthetics and Criticism (Aesthetics 121, 221-222); 9 hours in two other departments should be elected from courses in History, English, German, Romance Languages, Greek, Latin and Roman Studies, Philosophy, Sociology, Anthropology, Psychology, and the History of Religion.

MUSIC

Courses in music are offered both for the general student who wishes to acquire knowledge of music as literature and on a more technical level for those prepared to major in the field. The courses marked * are open to general students without prerequisites.

THEORY

*11-12. THEORY I.—The elements of harmony, rhythm, and form; the visual and aural recognition of scales, intervals, triads, and seventh chords, and their functions in relation to the system of tonality; harmonization of melodies; development of rhythmic discrimination. Designed for those students who wish to pursue a more technical study of music. Three lectures and two laboratory hours. Open only to freshmen. 8 s.h. (E) STAFF

*61-62. THEORY I.—An amplification of Music 11-12. Open to upperclassmen who have not had Music 11-12. 8 s.h. (E) STAFF

73-74. THEORY II.—A continuation of Music 11-12, plus analysis and composition of the smaller forms; further development of proficiency in harmonization; continuation of aural training; introductory study of counterpoint. Prerequisite: Music 11-12 or 61-62. 6 s.h. (E) ASSISTANT PROFESSORS BRYAN AND KLENZ

117-118. THEORY III.—A continuation of Music 73-74. Emphasis upon development of technical and expressive means and stylistic treatment by practical work in composition, and analysis and observation of larger forms; further study of counterpoint. The completion of an original large form composition for chamber group, chorus, or orchestra. Prerequisites: Music 11-12 or 61-62, and 73-74. 4 s.h. (E) ASSISTANT PROFESSOR KLENZ

121. CONDUCTING.—The conducting of orchestral and vocal scores. Score-reading and analysis, principles of interpretation, establishment of vocal and instrumental conductorial techniques leading to practical experience in conducting the department musical organizations in rehearsal. Prerequisites: Music 11-12 or 61-62, and 73, or consent of the instructor. 3 s.h. (E) ASSOCIATE PROFESSOR BONE

122. ORCHESTRATION.—A study of the technical characteristics and transpositions of the instruments of the modern symphony orchestra and concert band. Instrumentation of piano scores or original compositions for string, woodwind, brass ensembles, and for full symphony orchestra or concert band. Prerequisites: Music 11-12 or 61-62, and 73, or consent of the instructor. 3 s.h. (E) ASSOCIATE PROFESSOR BONE

HISTORY AND CRITICISM

*1-2. INTRODUCTION TO MUSIC.—Rhythm, melody, harmony, form. The instruments of the orchestra and their use. Orchestral, chamber, choral and operatic music of the Classic and Romantic periods. Designed for those students who wish to acquire a general appreciation of music. Open only to freshmen who do not plan to major in music. 6 s.h. (E) ASSOCIATE PROFESSOR BONE; ASSISTANT PROFESSORS HANKS AND WITHERS

*51-52. INTRODUCTION TO MUSIC.—Music from 1700 to the present day. Acquisition of a reading knowledge of notes, rhythms, musical symbols. Study of forms, media, styles, and the lives and works of great representative composers. Not open to music majors or to students who have had Music 1-2. 6 s.h. (E) ASSISTANT PROFESSORS KLENZ AND J. MUELLER

95-96. **HISTORY OF MUSIC I.**—Historical background and development of music in the Classical, Romantic, and Contemporary periods. Study of representative compositions from the Mannheim school through Beethoven, first semester; Schubert to the present, second semester. Prerequisites: Music 1-2 or 11-12 or 61-62, or consent of the instructor. 6 s.h. (E) ASSISTANT PROFESSORS KLENZ AND SAVILLE

*133. **ORCHESTRAL LITERATURE.**—A study of orchestral suites, overtures, concerti, symphonies, and symphonic poems selected from literature of the eighteenth century to the present. 3 s.h. (E) ASSOCIATE PROFESSOR BONE

*134. **CHORAL LITERATURE.**—A study of representative oratorios, cantatas, and masses from Bach to Stravinsky; religious and social implications of sacred choral compositions and performance from the Baroque to the present. 3 s.h. (E) ASSISTANT PROFESSOR SAVILLE

135. **PIANO LITERATURE.**—A comprehensive survey of the great works for keyboard instruments, from the time of the English virginal composers to the present. Prerequisites: Music 47A, 48A, 97A, and 98A, or consent of the instructor. 3 s.h. (E) ASSISTANT PROFESSOR WITHERS

136. **SOLO SONG LITERATURE.**—A study of standard recital repertoire; early Italian and English songs, German lieder, the French and English art song. Open to junior and senior Applied Voice majors. 3 s.h. (E) ASSISTANT PROFESSOR HANKS

137. **CHAMBER MUSIC.**—A study of form, style, and interpretation of masterpieces of chamber music. Prerequisites: Music 1-2 or 51-52, or 11-12 or 61-62, or consent of the instructor. 3 s.h. (E) ASSISTANT PROFESSOR J. MUELLER

138. **CONTEMPORARY MUSIC.**—A critical survey of contemporary stylistic trends and theory in the light of their twentieth-century background. Prerequisites: Music 1-2 or 51-52 or 11-12 or 61-62, or consent of the instructor. 3 s.h. (E) ASSISTANT PROFESSOR KLENZ

145-146. **HISTORY OF MUSIC II.**—History and technical development of music in Mediaeval, Renaissance, and Baroque periods against a background of European cultural history. First semester: late classic, early Christian music; the evolution of Gregorian Chant; Romanesque, Troubadour, and Gothic forms. Second semester: Renaissance and Baroque (J. S. Bach). Prerequisites: Music 95-96 or consent of instructor. 6 s.h. (E) ASSISTANT PROFESSOR KLENZ

*164. **MUSIC IN THE NINETEENTH CENTURY.**—A study of the music of the nineteenth century, from Beethoven to Debussy, with attention to artistic and literary influences, and the relations among the creative minds of the time. Individual projects. 3 s.h. (E) ASSISTANT PROFESSOR J. MUELLER

*165. **OPERA.**—Opera from Handel to Strauss; aesthetic and cultural implications of opera from the Baroque to the present. 3 s.h. (E) ASSISTANT PROFESSOR SAVILLE

195-196. **COLLEGIUM MUSICUM (HISTORY OF MUSIC III).**—Studies in the integration of music history, theory, and performance. Survey of sources, monuments, and bibliographical techniques. Preparation for performance of representative musical literature through analysis, realization of notations, and stylistic reconstruction. Classroom discussion and reports; also laboratory. Designed for music majors in history or theory and open to others by consent of the instructor. 4 s.h. Laboratory may be taken separately under Applied Music, Medium F. (E) ASSISTANT PROFESSOR KLENZ

MUSIC EDUCATION

57-58. **VOCAL DICTION.**—Problems of diction as specifically applied to the art of singing. Required of all Applied Voice majors. 2 s.h. (E) ASSISTANT PROFESSOR HANKS

106. **PIANO METHODS AND MATERIALS.**—A study of the materials and methods of piano pedagogy. The appropriate choice of essential and supplementary literature. Development of technique, style, and musicianship. Supervised practice teaching. Prerequisites: Music 47A, 48A, 97A, and 98A, or consent of the instructor. 3 s.h. (E) ASSISTANT PROFESSOR WITHERS

107. VOCAL PEDAGOGY.—The problems of private vocal teaching. A detailed study of the function of the vocal mechanism and of the psychological factors in teaching. Open to junior and senior Applied Voice majors, and others with the consent of the instructor. 3 s.h. (E) ASSISTANT PROFESSOR HANKS

151. PUBLIC SCHOOL MUSIC EDUCATION.—For Elementary Education majors. Child voice and song; rhythmic activities; discriminative listening; music-reading; use of elementary instruments such as autoharp, tonette, and rhythm band instruments; music as a creative art in its own right and as an adjunct to other studies. 3 s.h. (E) ASSISTANT PROFESSOR SAVILLE; MRS. MCCALL

APPLIED MUSIC

The study of Applied Music concerns the use and understanding of technics of performance in relation to the standard literature of each medium or ensemble group. Instruction is offered in the following media: A. Piano; B. Strings; C. Woodwinds; D. Brass; E. Voice; F. Ensemble—Piano, Instrumental, Vocal, and the Departmental Ensembles listed below. Instruction in media A through E may be private or in classes limited to a minimum of 4 and a maximum of 7 students. Class instruction is restricted to the first 4 grades of proficiency. Class instruction shall be designated by adding the letter X to the appropriate medium and year-in-school classification. (Example: junior year, Woodwinds, class instruction is recorded 147CX.)

Students who wish to enroll in Applied Music courses *must* consult with the appropriate faculty member *before* registering for a course.

47A, 48A; 97A, 98A; 147A, 148A; 197A, 198A. **PIANO.**—For freshmen, sophomores, juniors, seniors. 2 s.h. (E) ASSISTANT PROFESSOR WITHERS; MRS. BERNSTEIN

47B, 48B; 97B, 98B; 147B, 148B; 197B, 198B. **VIOLIN, VIOLA, 'CELLO.**—For freshmen, sophomores, juniors, seniors. 2 s.h. (E)

ASSISTANT PROFESSORS KLENZ AND J. MUELLER

47C, 48C; 97C, 98C; 147C, 148C; 197C, 198C. **WOODWINDS.**—For freshmen, sophomore, juniors, seniors. 2 s.h. (E) ASSOCIATE PROFESSOR BONE

47D, 48D; 97D, 98D; 147D, 148D; 197D, 198D. **BRASS.**—For freshmen, sophomores, juniors, seniors. 2 s.h. (E) ASSISTANT PROFESSOR BRYAN; MR. WOOD

47E, 48E; 97E, 98E; 147E, 148E; 197E, 198E. **VOICE.**—For freshmen, sophomores, juniors, seniors. 2 s.h. (E) ASSISTANT PROFESSOR HANKS

47F, 48F; 97F, 98F; 147F, 148F; 197F, 198F. **ENSEMBLE.**—For freshmen, sophomores, juniors, seniors. Prerequisite: consent of the instructor. 1 s.h. (E) STAFF

Credits: Credit for Media A through E is granted on the basis of 2 s.h. per semester for one period of private study and a minimum of 6 hours practice per week; 1 s.h. per semester for one period of class study and a minimum of 6 hours practice per week.

Credit for instruction in Medium F is granted on the basis of 1 s.h. per semester for one period of instruction per week and a minimum of 6 hours practice per week. No additional fee required.

Students other than Music Majors may receive not more than 8 s.h. credit for work in Applied Music. For any number of hours in Applied Music an equal number of hours must be taken in Music Theory or in Music History and Criticism.

Music Majors may take a minimum of 6 s.h. and a maximum of 14 s.h. in Applied Music according to the following areas of concentration:

Majors in Music Theory or in Music History and Criticism must earn 6 s.h. credit in Applied Music. (Credit may be reckoned from Grade I.)

Majors in Applied Music may earn a maximum of 14 s.h. credit in Applied Music.

Majors in Music Education must earn credit in Applied Music as follows in order to qualify for state certification in North Carolina:

General (Vocal) Major—13 s.h.

a. Voice, reckoned from Grade I—6 s.h.

- b. Piano, reckoned from Grade I—6 s.h.
- c. Ensemble—1 s.h.
- Instrumental Major—13 s.h.
 - a. Major medium, reckoned from Grade III—8 s.h.
 - b. Instrument classes—1 s.h. each of woodwinds, brass, string instruments other than major-minor instruments above—3 s.h.
 - c. Ensemble—2 s.h.
 - d. For purposes of certification in the State of North Carolina a student should earn credits beyond those accepted for graduation as follows: Piano proficiency sufficient to play at sight hymns or music of equivalent difficulty and/or study of a string instrument—4 s.h. and participation in one of the departmental organizations listed below—4 s.h.

Fees per semester: Fees are charged for Applied Music Media A, B, C, D, and E, and for practice facilities. They are payable to the Treasurer's Office of Duke University at the beginning of each semester as follows:

One ½ hour private lesson per week for one semester.....	\$45.00
Two ½ hour private lessons per week or one 1-hour private lesson per week for one semester.....	80.00
One 1-hour class lesson per week for one semester.....	25.00
Three hours' use of cubicle with piano per week for one semester (Theory and Voice students).....	7.50
Six hours use of cubicle with piano per week for one semester (Piano students).....	15.00
Six hours use of cubicle without piano per week for one semester.....	10.00

DEPARTMENTAL ENSEMBLES

Brass Ensemble	Madrigal Singers
Chamber Orchestra	Piano Ensemble
Collegium Musicum	Vocal Ensemble

DEPARTMENTAL ORGANIZATIONS

Duke University Concert Band
Duke University Symphony Orchestra

DEPARTMENTAL MAJOR IN MUSIC

Prerequisite: Music 11-12 or 61-62.

Major Requirements: 24 s.h. including 6 s.h. in Applied Music. The major student shall select, in consultation with his departmental adviser, a sequence of Music courses emphasizing (a) theory, or (b) history and criticism, or (c) education, or (d) the use and understanding of a particular medium.

AIR SCIENCE

PROFESSOR KNIGHT, COLONEL, USAF, CHAIRMAN; ASSISTANT PROFESSOR MYERS, MAJOR, USAF, DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR SMITH, CAPTAIN, USAF, SUPERVISOR OF FRESHMAN INSTRUCTION; ASSISTANT PROFESSORS BARNHILL, MAJOR, USAF, AND STEVENS, CAPTAIN, USAF

ELIGIBILITY REQUIREMENTS.—All physically qualified freshmen who are citizens of the United States and are enrolled in Trinity College or the College of Engineering are eligible to enroll in the Air Force ROTC. Veterans may be exempted from the freshman and sophomore courses (AS 1-2 or AS 51-52). In special cases where permission has been granted, certain qualified students from the Graduate and Professional Schools may be enrolled.

DEPOSIT REQUIRED.—Each student must make a deposit of twenty dollars with the University Treasurer to insure return of all government property.

AIR FORCE ROTC COURSES.—All students pursue the same generalized courses. No flying training is included in the college program. All specialized training will be given when the individual enters the Air Force.

The courses are established by the United States Air Force and are approved by the College as electives for all undergraduates. Field or laboratory instruction in leadership, drill, and exercise of command is included as a part of all courses to indoctrinate the student in the fundamental principles of command.

BASIC COURSES

The following courses are required of students in the Air Force Reserve Officers Training Corps, as outlined in the various curricula:

AS 1-2. FIRST YEAR BASIC AIR SCIENCE.—This course introduces the student to the AFROTC Program and the Field of Aviation. The fundamentals of global geography are studied in relationship to international tensions and the resulting formation of security organizations. The course concludes with an analysis of the instruments of National Military Security. 4 s.h. (w) STAFF

AS 51-52. SECOND YEAR BASIC AIR SCIENCE.—Stress is laid upon the elements and potentials of air power including targets, weapons, aircraft, air oceans, air bases, and Air Force operations. A survey is made of the careers open to personnel in the Air Force. 4 s.h. (w) STAFF

ADVANCED COURSES

All students selected to continue in Air Science pursue:

AS 101-102. FIRST YEAR ADVANCED AIR SCIENCE.—The first semester is concerned with the Air Force commander and his staff; techniques of problem solving; communications processes and Air Force correspondence; instructing in the Air Force. The second half of the course deals with military law, courts and boards and applied air science including problems of modern flight, navigation, and weather. Attention is also given to the functions of an Air Force base. Prerequisites: AS 1-2 and 51-52 or equivalent. 8 s.h. (w) STAFF

AS 201-202. SECOND YEAR ADVANCED AIR SCIENCE: The first semester includes career guidance, seminar studies in the principles of leadership and management in the Air Force and military aviation and the evolution of warfare. The second semester is concerned with the military aspects of world political geography and concludes with a briefing for commissioned service. Prerequisites: AS 1-2 and 51-2 or equivalent, and AS 101-102. 8 s.h. (w) STAFF

BOTANY

PROFESSOR OOSTING, CHAIRMAN; PROFESSOR ANDERSON, DIRECTOR OF UNDERGRADUATE STUDIES; DR. MANLY, SUPERVISOR OF FRESHMAN INSTRUCTION; ASSISTANT PROFESSOR

PHILPOTT, SUPERVISOR OF FRESHMAN INSTRUCTION (WOMAN'S COLLEGE); PRO-

FESSORS BLOMQUIST, HARRAR, AND KRAMER; ASSOCIATE PROFESSORS

BILLINGS, HUMM, NAYLOR, AND PERRY; ASSISTANT PROFESSOR

JOHNSON, ASSISTANT PROFESSOR AND RESEARCH

ASSOCIATE SCHUSTER; AND ASSISTANTS

1. GENERAL BOTANY.—An introduction to the structure and life-processes of seed plants and the environmental factors influencing their distribution. Laboratory, discussions, and field trips. Three two-hour periods. 4 s.h. (w & e) STAFF

2. GENERAL BOTANY.—A survey of the plant kingdom with emphasis on reproduction and an introduction to identification. Three two-hour periods. Prerequisite: Botany 1. 4 s.h. (w & e) STAFF

51. CULTURE AND PROPAGATION OF PLANTS.—Experimental studies of the processes involved in growth, and the application of this knowledge to the selection, growth, and propagation of plants. Prerequisite: one year of botany. 4 s.h. (w) PROFESSOR ANDERSON

52. **PLANT IDENTIFICATION.**—Practice in the identification of local plants, especially flowering plants, and a study of the principles and rules underlying plant classification. Laboratory, lectures, and field trips. Prerequisite: one year of botany. 4 s.h. (w) PROFESSOR BLOMQUIST

53. **ECOLOGY OF ECONOMIC PLANTS.**—The principles of plant growth and distribution as applied to crop plants. Forest, grassland, and representative cultivated species will be considered in relation to environment. Prerequisite: one year of a natural science. 3 s.h. (E) PROFESSOR OOSTING

55. **ANATOMY AND MORPHOLOGY OF VASCULAR PLANTS.**—A detailed study of the vegetative and reproductive tissues of seed plants; and a survey of the several groups of vascular plants emphasizing relationships of body structures and life histories. Prerequisite: one year of botany. 4 s.h. (E)

ASSISTANT PROFESSOR PHILPOTT

101. **PRINCIPLES OF HEREDITY.**—The basic principles of heredity and their significance. Lectures, three hours; laboratory, two hours; conference (attendance optional), one hour. Laboratory work includes experimental breeding of the fruit fly. May be taken as a lecture course without laboratory. Prerequisite: one (high-school or college) course in biology, botany, or zoology. High-school or college algebra recommended. 3 or 4 s.h. (w)

ASSOCIATE PROFESSOR PERRY

103. **GENERAL BACTERIOLOGY.**—A study of the morphology and fundamental physiological processes of bacteria; their relationship to sanitation, public health, soil fertility, and food preservation. Prerequisite: one year of botany or zoology, or equivalent. 4 s.h. (w)

ASSOCIATE PROFESSOR HUMM

104. **THE STRUCTURE AND IDENTIFICATION OF LOWER PLANTS.**—A study of representative examples of algae, fungi, mosses and liverworts, including collection, identification, and classification of common forms. Offered in alternate years. Prerequisite: one year of botany. 4 s.h. (w)

PROFESSOR ANDERSON

151. **INTRODUCTORY PLANT PHYSIOLOGY.**—The principal physiological processes of plants, including water relations, synthesis and use of foods, and growth phenomena. Prerequisite: Botany 1, 2 or equivalent; one year of chemistry recommended. 4 s.h. (w)

PROFESSOR KRAMER

156. **PLANT ECOLOGY.**—The principal factors affecting plants and plant communities as they exist in different environments. Laboratory, lectures, and field trips. Prerequisites: Botany 1, 2 and 52, or equivalent. 4 s.h. (E)

ASSOCIATE PROFESSOR BILLINGS

202. **GENETICS.**—The principles of heredity, their cytological basis, and their bearing on other fields of biology. Laboratory work involves experimental breeding of the fruit fly and interpretation of data from the breeding of plants. Offered in alternate years. Prerequisites: one year of botany or zoology, or equivalent, and college algebra. 4 s.h. (w)

ASSOCIATE PROFESSOR PERRY

203. **PLANT CYTOLOGY.**—A study of the structure and organization of plant cells in relation to growth, reproduction and especially heredity. Offered in alternate years. Prerequisite: one year of botany. 4 s.h. (w)

PROFESSOR ANDERSON

204. **ADVANCED PLANT ANATOMY.**—A study of vegetative and reproductive tissues of vascular plants including selection and preparation of fresh plant materials. An analysis of some of the significant literature bearing upon function, development and phylogeny. Prerequisite: Botany 55 or equivalent. 4 s.h. (E)

ASSISTANT PROFESSOR PHILPOTT

216. **BOTANICAL MICROTECHNIQUE.**—Methods and theory in preparation of plant tissues for temporary mounts and permanent microscopical slides. Prerequisite: Two years of natural science. 4 s.h. (E)

ASSISTANT PROFESSOR PHILPOTT

218. **ILLUSTRATIVE TECHNIQUES.**—A study of botanical illustrative methods, including theory and use of the microscope, microscopical measurements, drawing, photomicrography, botanical photography, darkroom procedure, lantern slides and the preparation of illustrative material for publication. Prerequisite: Two semesters of botany, zoology or forestry. 2 s.h. (w)

PROFESSOR ANDERSON

221. **INTRODUCTORY MYCOLOGY.**—Field and laboratory study of the vegetative and reproductive structures of the fungi and slime molds. Methods of collection, isolation, propagation, and identification of the major orders as represented in the local flora. Prerequisite: One year of biological science. 4 s.h. (w)

ASSISTANT PROFESSOR JOHNSON

225-226. **SPECIAL PROBLEMS.**—Students with adequate training may do special work in the following fields:

- a. **MYCOLOGY, AND PLANT PATHOLOGY.** ASSISTANT PROFESSOR JOHNSON
- b. **CYTOLOGY.** PROFESSOR ANDERSON
- c. **ECOLOGY.** PROFESSOR OOSTING AND ASSOCIATE PROFESSOR BILLINGS
- d. **GENETICS.** ASSOCIATE PROFESSOR PERRY
- e. **MORPHOLOGY AND ANATOMY OF HIGHER GROUPS.** PROFESSOR HARRAR AND ASSISTANT PROFESSOR PHILPOTT
- f. **MORPHOLOGY AND TAXONOMY OF LOWER GROUPS.** PROFESSORS BLOMQUIST AND ANDERSON
- g. **PHYSIOLOGY.** PROFESSOR KRAMER AND ASSOCIATE PROFESSOR NAYLOR
- i. **TAXONOMY OF HIGHER GROUPS.** PROFESSOR BLOMQUIST
- j. **SENIOR SEMINAR.**—1 s.h. (w) STAFF
- m. **MICROBIOLOGY.** ASSOCIATE PROFESSOR HUMM

252. **ADVANCED PLANT PHYSIOLOGY.**—The physicochemical processes and conditions underlying the physiological processes of plants. Prerequisite: Botany 151 or equivalent; organic chemistry recommended. 4 s.h. (E)

ASSOCIATE PROFESSOR NAYLOR

254. **PLANT WATER RELATIONS.**—A study of factors affecting the availability of water, its absorption and use in plants, and the effects of water deficits on plant processes. Assigned readings, reports, and lectures. Prerequisite: Botany 151 or equivalent. 3 s.h. (w)

PROFESSOR KRAMER

255. **ADVANCED TAXONOMY.**—A study of the historical background of plant taxonomy, modern concepts and systems of classification, nomenclatorial problems and the taxonomy of specialized groups. Prerequisite: two years of botany, including Botany 52 or equivalent. 4 s.h. (w)

PROFESSOR BLOMQUIST

256. **COMMUNITY ANALYSIS AND CLASSIFICATION.**—The development of concepts and methods in synecology leading to present applications of theory and field techniques. Prerequisite: Botany 156 or equivalent. 3 s.h. (E)

PROFESSOR OOSTING

257. **PRINCIPLES OF PLANT DISTRIBUTION.**—Interpretations of floristic and ecological plant geography of world vegetation. Prerequisite: Botany 156 or equivalent. 3 s.h. (E)

ASSOCIATE PROFESSOR BILLINGS

258. **PHYSIOLOGY OF GROWTH AND DEVELOPMENT.**—Consideration of the internal factors and processes leading to the production of new protoplasm and its differentiation at the cellular, tissue, and organ level in plants. Prerequisite: Botany 151 or equivalent; organic chemistry recommended. 3 s.h. (E)

ASSOCIATE PROFESSOR NAYLOR

259. **ENVIRONMENTAL MEASUREMENTS.**—Methods of obtaining and evaluating climatological data for ecological purposes with special attention to instrumentation and microclimate. Prerequisite: Botany 151 and 156 or equivalent. 3 s.h. (E)

ASSOCIATE PROFESSOR BILLINGS

FOREST BOTANY

224. **FOREST PATHOLOGY.**—Infectious and non-infectious diseases of forest trees, and related deterioration of forest products. Field and laboratory study of symptoms, etiology, and control. Prerequisite: Botany 1 and 2. 3 s.h. (w)

ASSISTANT PROFESSOR JOHNSON

253. DENDROLOGY.—Nomenclature, classification, and identification of woody plants with special reference to species indigenous to southeastern United States and other important forest regions of temperate North America. Laboratory and field work. Prerequisite: one year of botany. 3 s.h. (w) PROFESSOR HARRAR

DEPARTMENTAL MAJOR

Prerequisites: Botany 1 and 2.

Major Requirements: A minimum of 21 hours (B.S., 24 hours) of work including courses 52, 53, and 104. The remaining hours may be selected from any other courses in the Department for which the student is eligible, subject to the approval of the Departmental Adviser. All majors are expected to register for Senior Seminar for one semester of their senior year.

Related Work: Courses in at least two Natural Science Departments sufficient to total, with major work, 42 s.h. (B.S., 48 s.h.).

CHEMISTRY

PROFESSOR SAYLOR, CHAIRMAN; ASSISTANT PROFESSOR STROBEL, DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSOR HILL, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS BIGELOW, GLOCKER (VISITING LECTURER), CROSS, HAUSER, HOBBS, AND VOSBURGH; ASSOCIATE PROFESSORS BRADSHER AND BROWN; ASSISTANT PROFESSORS KRIGBAUM AND WILDER; DRs. BUYSKE AND STANSFIELD AND ASSISTANTS

12. GENERAL INORGANIC CHEMISTRY.—Lectures and recitations on the elementary principles of chemistry and on the structure, preparation, properties, and uses of the elements and their compounds. The laboratory work includes qualitative analysis of some of the more common metals. One lecture, two recitations, and three laboratory hours, throughout the year. 8 s.h. (w & e)

PROFESSOR HILL; ASSOCIATE PROFESSORS BRADSHER AND BROWN; ASSISTANT PROFESSORS KRIGBAUM, STROBEL, AND WILDER; DRs. BUYSKE AND STANSFIELD AND ASSISTANTS

61. FUNDAMENTALS OF ANALYTICAL CHEMISTRY.—A study of the reactions of electrolytes in solution and of chemical equilibrium illustrated by laboratory experiments involving the techniques of gravimetric, volumetric, and colorimetric analysis. One lecture, one recitation and six laboratory hours. Prerequisites: Chemistry 1-2, and Mathematics 6 or equivalent. 4 s.h. (w)

PROFESSORS SAYLOR AND VOSBURGH; ASSISTANT PROFESSORS KRIGBAUM, STROBEL, AND WILDER; AND ASSISTANTS

70. QUANTITATIVE ANALYSIS.—A study of the theory and technique of inorganic gravimetric and volumetric analysis. One lecture, one recitation, and six laboratory hours. Prerequisite: Chemistry 61. 4 s.h. (w)

PROFESSORS SAYLOR AND VOSBURGH; ASSISTANT PROFESSORS KRIGBAUM, STROBEL, AND WILDER; AND ASSISTANTS

131. ADVANCED QUANTITATIVE ANALYSIS.—A second course in the theory and technique of inorganic analysis with special reference to the analysis of complex materials. One lecture and six laboratory hours. Prerequisite: Chemistry 70. 3 s.h. (w)

PROFESSORS VOSBURGH AND SAYLOR AND ASSISTANTS

151-152. ORGANIC CHEMISTRY.—An introduction to the study of the compounds of carbon in which the chemistry of aliphatic and aromatic compounds is considered. Laboratory experiments are selected to illustrate the more important reactions and preparations of organic compounds. Two lectures, one recitation, and three laboratory hours. Prerequisite: Chemistry 61. Course 151 is prerequisite for 152. 8 s.h. (w)

PROFESSORS BIGELOW AND HAUSER; ASSOCIATE PROFESSORS BRADSHER AND BROWN; ASSISTANT PROFESSOR WILDER; AND ASSISTANTS

206. ELEMENTS OF THEORETICAL CHEMISTRY.—A course in the general principles of physical chemistry for students who do not present credit in calculus. Credit is not given for both 206 and 261-262. Three recitation and three laboratory hours. Prerequisites: Chemistry 70, 151-152, Physics 51-52 or 1-2 and Mathematics,

6 s.h. With the permission of the Director of Graduate Studies, graduate students from other departments may offer other advanced science courses in place of some of these prerequisites. 4 s.h. (w) PROFESSORS SAYLOR AND HOBBS

215. ADVANCED INORGANIC CHEMISTRY.—A study of modern theories of valence and molecular structure; also of inorganic compounds, particularly the less common types, illustrated by suitable laboratory preparations. Prerequisites: Chemistry 261-262, or 206. 1, 3, or 4 s.h. PROFESSORS VOSBURGH AND HILL

216. NUCLEAR CHEMISTRY.—Types and elementary theory of nuclear reactions and the considerations involved in the use of tracers in chemical studies. 1 s.h. Prerequisites: Chemistry 261-262; 262 may be taken concurrently. PROFESSOR HILL

233. INSTRUMENTAL ANALYSIS.—Experiments in the use of physical measuring instruments in chemical analysis with special attention to optical instruments. One lecture and three laboratory hours. Prerequisites: Chemistry 70 and one year of physics. 2 s.h. (w) ASSISTANT PROFESSOR STROBEL; PROFESSORS HOBBS, AND VOSBURGH

234. PHYSICO-CHEMICAL METHODS OF ANALYSIS.—Discussion of physico-chemical principles as applied to methods of instrumental analysis, illustrated by laboratory experiments with emphasis on methods involving electrical techniques. One lecture and three laboratory hours. Prerequisites: Chemistry 70 and either 261-262 or 206; either of the latter may be taken concurrently. 2 s.h. (w) ASSISTANT PROFESSOR STROBEL; PROFESSORS SAYLOR AND VOSBURGH

251. QUALITATIVE ORGANIC ANALYSIS.—Systematic identification of organic compounds, including a study of solubilities and classification reactions. One lecture and six laboratory hours. With permission of the Director of Graduate Studies, graduate students may take three hours of laboratory work instead of six and receive 2 semester hours credit. Prerequisites: Chemistry 70 and 151-152. 3 s.h. (w) PROFESSOR HAUSER AND ASSISTANTS

252. ADVANCED ORGANIC PREPARATIONS.—A laboratory course designed to supplement the student's knowledge of fundamental organic processes by a selected group of laboratory exercises accompanied by oral discussions of techniques and theories pertinent to the experiments. Five hours laboratory and lecture with lectures in alternate weeks. Prerequisite: Chemistry 70 and 151-152. 2 s.h. (w) ASSOCIATE PROFESSOR BROWN AND PROFESSOR BIGELOW

261-262. PHYSICAL CHEMISTRY.—Fundamentals of general theoretical chemistry illustrated by selected laboratory experiments. Two recitations and three laboratory hours. Prerequisites: Chemistry 70, 151-152, Physics 51-52 or 1-2 and Mathematics 51-52 or equivalent. 6 s.h. PROFESSORS HOBBS AND SAYLOR

271. INTRODUCTION TO RESEARCH.—Lectures on the use of chemical literature, research methods, recording and publication of results, and other topics. One lecture. 1 s.h. (w) ASSOCIATE PROFESSOR BROWN

275-276. RESEARCH.—The aim of this course is to give instruction in methods used in the investigation of original problems. It is open to seniors by permission of the Director of Undergraduate Studies. Nine hours a week and conferences. 3 or 6 s.h. (w) PROFESSORS BIGELOW, GROSS, HAUSER, HILL, HOBBS, SAYLOR, AND VOSBURGH; ASSOCIATE PROFESSORS BRADSHAW AND BROWN; ASSISTANT PROFESSORS KRIGBAUM, STROBEL, AND WILDER

DEPARTMENTAL MAJOR

A. For the degree of A.B.

Prerequisites: Chemistry 1-2, Mathematics, 6 s.h.

Major Requirements: 22 s.h., including Chemistry 61, 70, 151-152, and an additional 6 or 7 s.h., which may be satisfied by 261-262 or by 206 together with 2 or 3 s.h. selected from courses 131, 233, 234 and 251.

Related Work: 20 s.h., including Physics 1-2 or Physics 51-52 with the remainder usually in Botany, Geology, Mathematics, Physics, or Zoology.

B. For the degree of B.S.

Prerequisites: Chemistry 1-2, Mathematics, 6 s.h.

Major Requirements: Chemistry 61, 70, 131, 151-152, 234, 251, 261-262.

Related Work: 18 s.h., including Physics, 8 or 10 s.h., and Mathematics 50, 51, and 52.

The language requirements must be satisfied by German and either French or Russian.

ECONOMICS AND BUSINESS ADMINISTRATION

PROFESSOR HOOVER, CHAIRMAN; PROFESSOR DE VYVER, DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSORS BLACK, HANNA, HUMPHREY, LONDON, RATCHFORD, SIMMONS, SMITH, SPENGLER AND VON BECKERATH; ASSOCIATE PROFESSORS JOERG, LEMERT, MANN, MCKENZIE, SAVILLE, AND SHIELDS; ASSISTANT PROFESSORS BELL, CARTTER, DEWEY, AND DICKENS; MESSRS. GUSTUS, HARTLE, AND MANLEY

The courses offered by the Department are listed under three divisions, Economics, Accounting, and Business Administration.

In general, the Economics courses aim to develop in the student such critical and analytical skills as underlie the ability to understand economic problems and institutions, both in their contemporary and in their historical setting. While no particular vocational or professional goal is emphasized, these courses furnish the academic background necessary for many positions in industry, for work in the economic branches of government service, and for graduate study in economics and the social sciences.

Courses in Accounting and Business Administration, although more concerned with general principles than with specific applications, stress in greater measure than courses in Economics the knowledge and techniques useful to students definitely preparing for business careers. The student who majors in Accounting may elect courses in accountancy, business law, and related work, sufficient to qualify for admission to C.P.A. examinations.

ECONOMICS

51-52. PRINCIPLES OF ECONOMICS.—6 s.h. (E & W)

STAFF

This course must be passed by all students planning to elect further courses in Economics and Business Administration.

Sections of Economics 51 will be offered during the spring semester, and sections of Economics 52 will be offered during the fall semester.

103. TRANSPORTATION.—Essential features, problems, and competitive positions of rail, highway, air, and inland-water transportation, with most emphasis on rail transportation. Special attention is given to the economic significance of transportation, and to cost factors, rates and their economic effects and regulations. 3 s.h. (w)

PROFESSOR LONDON

107. CONSERVATION.—A study of the extent and distribution of our natural resources and their service in regional and national development. Emphasis will be placed upon both the natural and human factors involved in the genesis of current problems. Term reports dealing with problems of special interest to those participating will be considered. 3 s.h. (w)

ASSOCIATE PROFESSOR LEMERT

132. THE ECONOMIC HISTORY OF THE UNITED STATES.—A study of the agricultural, industrial, commercial, and financial progress of the United States from colonial times to the present day. 3 s.h. (w)

PROFESSOR SMITH

149. INTERMEDIATE ECONOMICS.—This course develops methods of economic analysis beyond the principles level. Major emphasis is laid on the determination of price and distribution of income. These problems are studied in the context of both competitive and monopolistic market structures. 3 s.h. (w)

STAFF

152. GLOBAL GEOGRAPHY.—The subject matter involves resources patterns and world affairs, geonomic problems, geocultural problems, and geographic factors affecting geopolitical questions. No prerequisite. 3 s.h. (E)

ASSOCIATE PROFESSOR LEMERT

153. MONEY, CREDIT AND BANKING.—This course begins with a study of the nature, characteristics, and functions of money, credit, and the commercial banking system. It covers also the history of commercial banking in the United States; the foundation, organization, and functions of the Federal Reserve System; the supervision and control of commercial banks; deposit insurance; and the value of money. 3 s.h. (w)

PROFESSOR SIMMONS; PROFESSOR RATCHFORD; ASSOCIATE
PROFESSOR SAVILLE; MR. GUSTUS

155. LABOR PROBLEMS.—An examination of present-day labor problems followed by an intensive study of methods used by employers and workers in meeting those problems. 3 s.h. (w)

PROFESSOR DE VYVER; ASSISTANT PROFESSOR CARTTER

161. EUROPEAN ECONOMIC PROBLEMS.—This course deals with the losses and economic dislocations of the war, the problem of developing a new pattern of intra-European and world trade, the effort to stabilize prices, expand investments and production, and the effect of economic planning and controls. 3 s.h. (w)

PROFESSOR HUMPHREY

169. ECONOMICS OF CONSUMPTION.—Economic problems of the family. Factors determining choice; commercial and legal standards for consumer's goods; consumer credit and co-operation; income and standards of living. 3 s.h. (w)

ASSOCIATE PROFESSOR SAVILLE

186. LATIN-AMERICAN ECONOMICS.—Facts and factors in the economic structure and growth of the Latin-American nations; population, labor productivity, and standards of living; problems of industry, agriculture, and mining; transportation and public utilities; monetary and fiscal policies; the migration of capital; economic thought and institutions. 3 s.h. (w)

PROFESSOR SMITH

187. PUBLIC FINANCE.—This is a general course in the principles of public finance. It covers the constitutional, economic, and administrative aspects of public revenues, public expenditures, public debts, and intergovernmental fiscal relations. Special attention is given to current trends and problems. 3 s.h. (w)

PROFESSOR RATCHFORD

189. BUSINESS AND GOVERNMENT.—An examination of the public policies which most directly affect the operation of competition in the business world. The course considers the leading philosophies of public control and economic development, the validity of their presuppositions, and their influence on legislation, court decisions, and administrative law. 3 s.h. (w)

ASSISTANT PROFESSOR DEWEY

193. ECONOMIC SYSTEMS.—A study of alternative economic systems. An analysis of the basic elements of capitalism and of collectivist types of economic systems. Particular attention is given to an analysis of the economic system of Soviet Russia. Credit for this course will be given only if the student takes Economics 194. Prerequisite: permission of the department. 3 s.h. (w)

PROFESSOR HOOVER

194. ECONOMIC FUNCTIONS OF THE STATE.—A continuation of Economics 193. A consideration of the economic functions of society and of the contrasting roles of the state in the various economic systems in carrying on these functions. The Nazi system, the quasisocialized economics of Europe, as well as the modifications of old-style capitalism in the United States are analyzed. Prerequisite: Economics 193. 3 s.h. (w)

PROFESSOR HOOVER

201. SENIOR SEMINAR IN ECONOMICS.—Problems in theory and applied economics. Readings, reports, and discussion of selected topics. For majors in Economics, with consent of the Department. 3 s.h. (w)

STAFF

204. ADVANCED MONEY AND BANKING.—Structure and functioning of the monetary and banking mechanism. Presupposes a thorough grounding in the field. Particular attention is given to significant areas involving issues of economic policy. Primary emphasis is placed upon the underlying basis of monetary management and upon its implementation by the central banking authorities. 3 s.h. (w)

PROFESSOR SIMMONS

217. POPULATION PROBLEMS AND RESOURCES.—Survey of population theory and policy. Study of national and international trends in population—growth and resource-use, together with analyses of their economic and social implications. 3 s.h. (w)
PROFESSOR SPENGLER

218. BUSINESS CYCLES.—A study of the various types of cyclical movements in industry, with special emphasis on cycle theory and methods of controlling or modifying business cycles. 3 s.h. (w)
PROFESSOR HUMPHREY

219. ECONOMIC PROBLEMS OF UNDER-DEVELOPED AREAS.—Consideration and analysis of the economic and related problems of under-developed countries. Some attention will be given to national and international programs designed to accelerate the solution of these problems. 3 s.h. (w)
PROFESSOR SPENGLER

231. ECONOMIC HISTORY OF EUROPE.—The economic development of Europe from medieval times to the present, treating such topics as the guilds, mercantilism, money, banking, crises, the Industrial Revolution, the interrelationships of government and business, and the economic consequences of war. 3 s.h. (w)
PROFESSOR SMITH

233. STATE AND LOCAL FINANCE.—A study of expenditures, taxation, and financial administration in state and local governments with emphasis on current problems. Special attention will be given to research methods and materials and to the financial relations between state and local governments. Prerequisite: Economics 187 or consent of instructor. 3 s.h. (w)
PROFESSOR RATCHFORD

237-238. STATISTICAL METHODS.—A study of statistical methods appropriate for dealing with problems in business and the social sciences. In addition to developing more thoroughly the subjects considered in Business Statistics, the following methods will be considered: simple, multiple, partial, and curvilinear correlation; curve fitting; probability; frequency distributions; and reliability of estimates. Prerequisite: Economics 138 or consent of the instructor. Either semester may be taken for credit. 6 s.h. (w)
PROFESSOR HANNA

240. NATIONAL INCOME.—A critical survey of the conceptual framework and structure of national income and its components, the reliability of national income estimates, and their use in analyzing questions of economic policy. 3 s.h. (w)
PROFESSOR HANNA

241. VALUE AND DISTRIBUTION.—This course is a critical survey of the leading contemporary explanations of price formation and of the determination of interest, rent, wages, and profits. 3 s.h. (w)
PROFESSOR SPENGLER

243. MATHEMATICAL ECONOMICS.—A systematic survey of mathematical economic theory. The principal topics are conditions of static equilibrium, including stability conditions, dynamic models using difference equations, and linear production models of input-output analysis and activity analysis. 3 s.h. (w)
ASSOCIATE PROFESSOR MCKENZIE

244. INTRODUCTION TO ECONOMETRICS.—The theory of statistical model building in economics. The identifiability of parameters in a system of linear difference equations. The statistical estimation of parameters. The design of dynamic economic models. 3 s.h. (w)
ASSOCIATE PROFESSOR MCKENZIE

245. PROBLEMS OF MODERN INDUSTRIALISM.—Description and analysis of the growth of modern industrialism, of the structure and operation of large scale industry, of the inter-relations of industrial, political, and legal development, and of the implications for industry of the modern welfare state. 3 s.h. (w)
[Not offered in 1954-55.]
PROFESSOR VON BECKERATH

256. LABOR LEGISLATION AND SOCIAL INSURANCE.—A study of the relations of the state to labor problems with special reference to remedial legislation, to interference in labor disputes, and to social insurance. Prerequisite: Economics 155 or with the consent of the instructor. 3 s.h. (w)
PROFESSOR DE VUYER

257. **DYNAMICS OF THE LABOR MOVEMENT.**—A study of the forces which have shaped the growth of the labor movement. Special emphasis on the origin of modern trade unionism, relating its growth with western philosophic developments, and with the changing economic and social structure of society in Europe and America. 3 s.h. (w)
ASSISTANT PROFESSOR CARTTER

262. **TRADE UNIONISM AND COLLECTIVE BARGAINING.**—An intensive survey of the trade union as an economic institution is followed by a study of the principles and problems of union-management relationship as found in collective bargaining. Prerequisite: Economics 155 or equivalent. 3 s.h. (w)
PROFESSOR DE VYVER

265. **INTERNATIONAL TRADE AND FINANCE.**—A study of the fundamental principles of international trade and foreign exchange. Subjects covered will include international specialization, balance of payments, foreign investments, tariffs and commercial policies, exchange control, exchange rates, and international monetary problems. 3 s.h. (w)
PROFESSOR HUMPHREY

268. **COMPETITIVE VERSUS MONOPOLISTIC ENTERPRISE.**—A study of monopoly and imperfect competition as disturbances of a free, self-regulating market economy in an individualistic democratic political system; of the possibilities of public and private action respecting the preservation of these systems; and of the implications of planning and public welfare policies. 3 s.h. (w)
[Not offered in 1954-55.] PROFESSOR VON BECKERATH

ACCOUNTING

57-58. **PRINCIPLES OF ACCOUNTING.**—Principles of single proprietorship, partnership, and corporate accounting. Designed to give the student some insight into accounting techniques and an understanding of financial statements, their preparation and interpretation. Supervised laboratory attendance optional. 6 s.h. (w)
STAFF

60. **GENERAL ACCOUNTING.**—A one semester course in accounting principles designed for economics majors and other non-business administration students who desire some understanding of basic accounting concepts. This course must be taken in the sophomore or junior year. Students may not receive credit for both Course 60 and Course 57-58. 3 s.h. (w)
ASSISTANT PROFESSOR DICKENS

147. **ACCOUNTING FOR CONTROL.**—This course traces the ways and means of executive control through statistics and industrial accounting. Emphasis is placed upon controlling business enterprises through cost accounting, financial reports, and other techniques. This course is not open to accounting majors. Prerequisite: Economics 57-58. 3 s.h. (w)
PROFESSOR BLACK

171-172. **ADVANCED ACCOUNTING.**—Advanced accounting theory and practice applied to the managerial problems of valuation and operation in corporations, consolidations, mergers, and liquidations. Open to students who have completed Economics 57-58. 6 s.h. (w)
ASSOCIATE PROFESSOR SHIELDS

173-174. **AUDITING, THEORY AND PRACTICE.**—This course is primarily concerned with preparing the student to enter public accounting practice, but some attention is given to internal auditing. During the first semester, auditing techniques and methods are studied through the use of an audit practice set. The work of the second semester deals with matters of auditing and accounting policy examined from the standpoints of the supervising accountant, the business manager, and the investor. Prerequisite: Economics 171-172 and the permission of the department. 6 s.h. (w)
ASSISTANT PROFESSOR BELL

175-176. **C.P.A. REVIEW.**—Thorough practice in classroom to prepare candidates for the Certified Public Accountant examination. The object is to train students to apply accounting principles and to work in classroom under substantially the same conditions as in the examination room. Practical accounting problems, auditing analysis and theory of accounts. Prerequisite: Economics 171-172 and permission of the department. 6 s.h. (w)
PROFESSOR BLACK

Those who do not wish credit may take Economics 175-176 for \$25.00 per semester.

177. INCOME TAX ACCOUNTING.—A study of the accounting principles involved in the management of business enterprise under the requirements of Federal income tax laws. Practice is given in the preparation of tax returns. Prerequisite: Economics 171-172 or permission of the instructor. 3 s.h. (w)

ASSOCIATE PROFESSOR SHIELDS

178. ACCOUNTING SYSTEMS.—A presentation of the design and use of basic accounting procedures as applied to specialized business needs. Field trips to selected business units will be arranged. Prerequisite: Economics 171-172 and the permission of the department. 3 s.h. (w)

ASSISTANT PROFESSOR DICKENS

[Not offered in 1954-55.]

180. GOVERNMENT ACCOUNTING.—Accounting principles and methods used in the control and administration of governmental units. Emphasis is placed upon state, county, and municipal governments. Prerequisite: Economics 57-58 and permission of the instructor. 3 s.h. (w)

ASSOCIATE PROFESSOR SHIELDS

275-276. ADVANCED INDUSTRIAL ACCOUNTING AND MANAGEMENT.—A comprehensive examination of the rationale and techniques of control methods used in industry. Emphasis is laid on a critical evaluation of the practices followed by job-order, process, and standard costing as well as the economics of overhead costs. Prerequisites: Economics 171-172 and permission of the Department. 6 s.h. (w)

PROFESSOR BLACK

BUSINESS ADMINISTRATION

11. ECONOMIC GEOGRAPHY.—A course in regional economic geography embracing the study of the world's major geographic regions, their present and potential production of food and raw materials for manufacture, and the relationship between these factors and the development of manufacturing industries, cities, and commerce. Offered both semesters. 3 s.h. (E & W)

ASSOCIATE PROFESSOR LEMERT

105. INDUSTRIAL MANAGEMENT.—This course deals primarily with the elements and problems of managing the operations of an industrial firm. Topics treated include the functions and responsibilities of management, qualities required in executives, organization, location, the physical plant, materials control, the planning and control of operations, industrial and market research, personnel, budgeting, purchasing, and records and reports. Offered both semesters. 3 s.h. (w)

PROFESSOR LANDON AND ASSOCIATE PROFESSOR JOERG

109. THE ECONOMIC GEOGRAPHY OF LATIN AMERICA.—This course involves comprehensive study of the resources and people of Mexico, the West Indies, and Central and South America. Special emphasis is placed upon the possibilities and limitations of increases in trade between the United States and the leading Latin-American countries. 3 s.h. (E)

ASSOCIATE PROFESSOR LEMERT

115. FUNDAMENTALS OF GEOGRAPHY.—A study of geographic influences consisting of location, maps and their interpretation, climate, topography, soils, minerals, bodies of water, plants, animals, and the works of man. This course is required of all students in the Elementary School Teaching program, and is also recommended for those intending to specialize in foreign trade or the diplomatic service. 3 s.h. (E)

ASSOCIATE PROFESSOR LEMERT

116. PRINCIPLES OF ECONOMIC GEOGRAPHY.—A study of the economic resources of the world; the products of the agricultural and manufacturing industries; trade routes and trade centers; and influence of geographic factors on the economic development of nations. This course is recommended for those intending to specialize in foreign trade or the diplomatic service. Prerequisite: Economics 115. 3 s.h. (E)

ASSOCIATE PROFESSOR LEMERT

118. ECONOMIC GEOGRAPHY OF THE SOUTH.—A study of the agricultural, commercial, and industrial development, with special emphasis upon the expansion of Piedmont industries. 3 s.h. (E)

ASSOCIATE PROFESSOR LEMERT

120. **ECONOMIC GEOGRAPHY OF THE PACIFIC.**—The physical influences, natural resources, and economic activities of Asia, Oceania, and portions of the western coasts of North and South America with special emphasis upon their relationship to present developments. 3 s.h. (E) ASSOCIATE PROFESSOR LEMERT

138. **BUSINESS STATISTICS.**—A survey of the principal statistical methods and their application to economics and business administration. The course deals with collection of statistical data, construction of statistical tables and charts, and a brief study of the fundamental statistical concepts and techniques. Offered both semesters. 3 s.h. (w) PROFESSOR HANNA; ASSOCIATE PROFESSOR SAVILLE; MR. HARTLE

Open to juniors and to sophomores in the second semester. Not open to seniors except with the permission of the Director of Undergraduate Studies.

143. **CORPORATION FINANCE.**—Principles and problems in the financial organization of corporations; the study of corporate securities, the management of capital, the distribution of earnings; industrial combinations; insolvency and reorganization. Though not a prerequisite, Economics 57-58, Principles of Accounting, or Economics 60, General Accounting, are recommended to students electing this course. Offered both semesters. 3 s.h. (w) ASSOCIATE PROFESSOR JOERG AND ASSISTANT PROFESSOR BELL

144. **INVESTMENTS.**—A study of the investment policies of individuals and institutions; the securities markets; sources of investment information and data; the analysis and interpretation of financial statements. Prerequisites: Economics 57-58 or 60, and 143. 3 s.h. (w) ASSOCIATE PROFESSOR JOERG

158. **INSURANCE.**—The development and basic principles of insurance. This course covers such topics as business uses, policy contracts, costs, and regulation of insurance. Life and fire insurance are emphasized. 3 s.h. (w) ASSOCIATE PROFESSOR SAVILLE

168. **MARKETING.**—The topics covered in this course include the economic importance of markets and the marketing system; marketing functions; organization, and methods, price policies; finance; speculation; market research and the planning of marketing activities; co-operative marketing; criticism of marketing and means for improvement; and regulation. 3 s.h. (w) PROFESSOR LANDON

181. **BUSINESS LAW.**—The fundamental principles of law as applied to routine business transactions. The topics presented are: contracts, negotiable instruments, forms of business organizations. 3 s.h. (w) MR. MANLEY

182. **BUSINESS LAW.**—A continuation of 181. The topics presented are: agency, bailments, sales, and related principles. 3 s.h. (w) MR. MANLEY

184. **COMMERCIAL LAW FOR ACCOUNTANTS.**—A review and summation of commercial law principles as they apply to accounting theory and practice. Emphasis will be placed upon the commercial law sections of the Certified Public Accountant examinations. Students are admitted to the course by permission of the instructor. For seniors. 3 s.h. (w) PROFESSOR BLACK

188. **PERSONNEL MANAGEMENT.**—A study of the fundamental principles and problems of labor management and of collective bargaining under modern industrial conditions and under existing labor legislation. 3 s.h. (w) PROFESSOR DE VYVER

191. **BUSINESS POLICY.**—An integrating course, where through analysis of a series of case problems from the top management viewpoint, the student is given practice in arriving at effective courses of action to solve business problems. To complete this course satisfactorily the student will be required to draw upon the institutional knowledge and techniques acquired in the other courses in the Department. Prerequisites: Business Administration requirements through the junior year. 3 s.h. (w) STAFF

DEPARTMENTAL MAJORS

1. ECONOMICS

A. *Prerequisites:*

1. Students are urged although not required to take Mathematics 5 as partial fulfillment of the Minimum Uniform Requirements in the Natural Sciences and Mathematics.
2. Economics 51-52.

B. *Number of hours needed:* 24 hours in addition to Economics 51-52.

1. Required courses—Economics 149
Economics 153
2. Electives—18 semester hours of work in Economics (not Accounting or Business Administration) of which 9 semester hours shall be advanced courses in the Department.

C. *Related Work:*

1. Number of hours needed: 18 hours.
2. Required courses: one of the following—
Economics 57-58 Principles of Accounting
Economics 60 General Accounting
Economics 138 Business Statistics
3. Departments in which related work is usually taken:
Mathematics, Psychology, the social sciences and Business Administration.
In special cases courses taken in other departments may be counted as related work with the approval of the department and the dean.

2. ACCOUNTING

For the requirements for a major in Accounting, see page 91 of this Bulletin.

3. BUSINESS ADMINISTRATION

For the requirements for a major in Business Administration, see page 91 of this Bulletin.

EDUCATION

PROFESSOR CARTWRIGHT, CHAIRMAN; PROFESSOR CARR, DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSORS BOLMEIER AND CHILDS; ASSOCIATE PROFESSORS EASLEY, MCLENDON, RUDISILL, STUMPF, AND WEITZ; ASSISTANT PROFESSORS COLVER, GEHMAN, INGLES, JACOBANSKY, MASSEY, PETTY, RAPPAPORT, REYNOLDS, AND ZUKOWSKI;
AND ASSISTANTS

Courses in the Department of Education are designed for two groups of students: (1) students with teaching experience or others who have definitely chosen teaching as their life-work, and (2) students who desire to study the school as an outstanding social institution. The courses listed in Nursing Education are for students preparing to teach in schools of nursing.

Students who do not expect to teach but merely desire an understanding of the school as part of a liberal education are advised to elect such courses as 84 and 88 for their introductory work in the Department and then to elect further work in accordance with their special interests. Students who expect to teach in the public schools should plan their courses in accordance with the general regulations set forth under Teaching on page 91 of this catalogue. *All prospective teachers must enroll in courses 84 and 88, preferably beginning before their junior year. They are then required to complete courses 103, 118, and 101-102 or 115-116 in their senior year.*

1. ORIENTATION IN STUDY AND STUDY HABITS.—A course for freshmen whose high-school and other records indicate the need for help in working out satisfactory study methods and in adjusting to college life. Note-taking from reading and lectures, time planning, remedial reading, and pertinent principles of the psychology of learning are among the matters considered. *Either semester. 3 s.h.*
(w)

[Not offered 1955-56.]

5. DEVELOPMENTAL READING.—A course consisting of study and practice for the improvement of the reading and study skills. Work is provided in such areas as vocabulary, speed of comprehension, critical interpretation, organization of ideas, and versatility of method in reading for different purposes. 3 s.h. (w)

ASSOCIATE PROFESSOR RUDISILL

84. SOCIAL FOUNDATIONS OF EDUCATION.—This course is the first of four intended to give the student a thorough survey of the place and function of education and an understanding of the school as a social institution. It is an introductory course emphasizing those historical, philosophical, and sociological factors which explain trends in American education. *Either semester.* 3 s.h. (W & E)

PROFESSORS CARTWRIGHT; ASSOCIATE PROFESSORS STUMPF AND McLENDON

NOTE: Courses 84, 88, 103, and 118 constitute a sequence of 12 hours in Education required of all prospective teachers. Students who intend to teach in the elementary school should confer with Professors Carr or Petty and students who intend to teach in the secondary school should confer with Professors McLendon or Reynolds in order to work this sequence into their schedules. See courses under Nursing Education for modified sequence of courses for students preparing to teach in schools of nursing.

88. EDUCATIONAL PSYCHOLOGY: LEARNING AND MEASUREMENT.—This course and Education 118 constitute a general introduction to the field of Educational Psychology. This course deals with (1) the psychology of learning, including: the nature of the learning process; general principles or laws of learning; the course of learning and forgetting; factors influencing efficiency in learning and retention; and the transfer of training; and (2) measurement, including: the basic concepts in the measurement of intelligence; standardized achievement tests; the extent and significance of individual differences in ability and performance. Opportunity will be afforded for examination and study of a variety of tests of intelligence and achievement. *Either semester.* 3 s.h. (E)

ASSOCIATE PROFESSORS EASLEY AND RUDISILL;

AND ASSISTANT PROFESSOR GEHMAN

See note following course 84.

101-102. ELEMENTARY EDUCATION: PRINCIPLES AND PRACTICE.—The study of the nature, subject matter, and methods of elementary education. The course is designed to give prospective elementary teachers an understanding of basic principles and practices in the organization of instruction and of subject matter for the primary and grammar grades of the public school. Students may elect primary or grammar-grade work, according to their special interests. The specific problems which arise in the student teachers' experiences are treated in group and individual conferences. *For seniors only.* 9 s.h. (E)

PROFESSOR CARR AND ASSISTANT PROFESSOR PETTY

NOTE: Education 101-102, 103, and 118 constitute a semester's work during the senior year.

103. ORGANIZATION AND MANAGEMENT OF THE SCHOOL.—An introduction to the problems of school organization and administration which are of particular concern to the classroom teacher. Although federal and state control over education is briefly reviewed, the main consideration is the local school system. Considerable attention is given to the administration of teaching personnel, pupil personnel, and the program of studies. *Either semester.* 3 s.h. (E)

PROFESSOR BOLMEIER AND ASSOCIATE PROFESSOR STUMPF

See notes following course 84, 101-102, 215-216.

118. EDUCATIONAL PSYCHOLOGY: PSYCHOLOGICAL DEVELOPMENT.—This course traces the psychological development of the individual from infancy to maturity. The principal topics considered are: the interdependence of hereditary and environmental factors in development, the nature of the development process, the establishment of the early basic patterns of behavior, changes and conditions producing these changes throughout childhood and adolescence to maturity, and the origin and treatment of minor behavior disorders. To the degree practicable, students will observe children in typical and atypical situations as a means of securing concrete data on the problems treated in the course. Not open to stu

dents who have had Psychology 121 or 126. Prerequisite: three semester hours in psychology or educational psychology. *Either semester.* 3 s.h. (E)

ASSOCIATE PROFESSOR EASLEY AND ASSISTANT PROFESSOR GEHMAN

See notes following course 84, 101-102, 215-216.

142. CHILDREN'S LITERATURE.—Students enrolled will be allowed to specialize in literature of either the primary or the grammar grades. 3 s.h. (E)

PROFESSOR CARR AND ASSOCIATE PROFESSOR RUDISILL

161. INTEGRATED ART IN THE PUBLIC SCHOOL.—Work in materials and methods as applied in two dimensional art. (Required of all students intending to teach in the elementary school.) 3 s.h. (E)

MR. STARS

162. PLASTIC ART IN THE PUBLIC SCHOOL.—Work in basic three dimensional art, giving an understanding of different sculptural media with special emphasis on ceramics. The course is designed for students in elementary and secondary art education, and will provide credit toward the North Carolina Elementary and Secondary Teaching Certificates. 3 s.h. (E)

MR. STARS

164. VOCAL MUSIC IN THE PUBLIC SCHOOL.—Materials and methods of teaching vocal music in the junior and senior high schools; emphasis on organization, administration, and performance of school choirs and ensembles; care of the changing voice. 3 s.h. (E)

ASSISTANT PROFESSOR SAVILLE

166. INSTRUMENTAL MUSIC IN THE PUBLIC SCHOOL.—Materials and methods of teaching instrumental music in the junior and senior high schools; emphasis on teaching technics, repertoire, organization, and administration of the instrumental curriculum. 3 s.h. (E)

ASSOCIATE PROFESSOR BONE

201. TEACHING AND SUPERVISION OF ARITHMETIC.—Special attention is given to the number system, the fundamental operations (with whole numbers, fractions, and decimals), percentage, and measurements. Considered also are the meaning theory, methods of teaching, problem solving, evaluation, practice and drill, and selection and gradation of arithmetical contents. The course is designed for teachers and supervisors in the elementary school. 3 s.h. (E)

ASSISTANT PROFESSOR PETTY

203. PRINCIPLES OF SCHOOL ADMINISTRATION.—The fundamental facts and procedures of school administration, an analysis of the problems and policies of the organization and direction of a local school system and the functions of the various school officials. Prerequisite: six semester hours in education. 3 s.h. (E)

PROFESSOR BOLMEIER AND ASSOCIATE PROFESSOR STUMPF

205. CURRICULUM PROBLEMS IN SECONDARY EDUCATION.—A consideration of the aims and objectives of secondary school subjects, emphasizing practical problems of curriculum-making in the high school. 3 s.h. (E)

PROFESSOR CHILDS

213. PROBLEMS IN THE ORGANIZATION AND ADMINISTRATION OF THE ELEMENTARY SCHOOL.—A study of the work of the elementary school principal. 3 s.h. (E)

[Not offered 1955-56.]

215-216. SECONDARY EDUCATION: PRINCIPLES AND INTERNSHIP.—A one-semester course, the first half of which is devoted to an intensive study of principles, curriculum, and methods in secondary education. The second half consists of supervised internship in public junior or senior high schools. Students carrying this course for credit toward a master's degree will be required to take six hours of senior or graduate work in addition to the normal degree requirements. *Either semester.* 9 s.h. (E)

ASSOCIATE PROFESSOR MCLENDON AND

ASSISTANT PROFESSOR REYNOLDS

Note: Education 215-216, 103, and 118 constitute a semester's work during the senior year.

224. TEACHING THE SOCIAL STUDIES IN ELEMENTARY SCHOOLS.—This course treats objectives, curriculum trends, methods, and materials in elementary-school social studies. Topics receiving emphasis include unit-planning, use of textbook, the reading program, the using of community resources, audio-visual

materials, dealing with controversial issues, teaching time and place concepts, and evolution. Opportunity is provided for teachers to work on their own school problems in the social studies. 3 s.h. (E) PROFESSOR CARTWRIGHT

225. THE TEACHING OF HISTORY AND THE SOCIAL STUDIES.—Evaluation of the objectives, content, materials, and methods in the teaching of History and the Social Studies. 3 s.h. (E) PROFESSOR CARTWRIGHT

226. TEACHING READING IN THE ELEMENTARY SCHOOL.—A study of the nature of the reading process and of principles, methods, and materials for the development of effective reading attitudes and skills as applied both to developmental and remedial programs. Practice is provided with elementary-school children suffering reading retardation, in testing, diagnosis, and daily remedial teaching. 3 s.h. (E) ASSOCIATE PROFESSOR RUDISILL

227. THE PSYCHOLOGY OF LEARNING: PROBLEMS.—The major problems related to the learning process will be examined with the experimental literature bearing on them. The curves of learning and forgetting, the distribution of practice, economical methods of learning, and the transfer of training will be the major topics considered. 3 s.h. (E) ASSOCIATE PROFESSOR EASLEY
[Not offered in 1955-56.]

228. IMPROVEMENT OF INSTRUCTION IN THE SOCIAL STUDIES.—An advanced treatment of curriculum, methods, and materials in the social studies. Individuals will concentrate on subjects and grade levels of their choice. 3 s.h. (E) ASSOCIATE PROFESSOR MCLENDON

232. SUPERVISION OF INSTRUCTION.—A survey of supervision as a means of improving instruction and adapting the curriculum to the learner and to community needs. 3 s.h. (E) PROFESSOR CARR

234. SECONDARY-SCHOOL ORGANIZATION AND ADMINISTRATION.—This course is designed especially for principals, teachers, and other prospective members of the secondary-school staff. The scope of secondary education is considered to encompass junior high school, regular high school, senior high, and junior college. Special treatment is given to the problems of internal organization and management. 3 s.h. (E) PROFESSOR BOLMEIER

236. TEACHING READING IN THE SECONDARY SCHOOL.—A study of the nature of the reading process and of principles, methods, and materials for the development of effective reading attitudes and skills as applied both to developmental and remedial programs. Practice is provided with secondary-school children suffering reading retardation, in testing, diagnosis, and daily remedial teaching. For secondary-school teachers of all subjects who wish to improve the reading and study habits of their students. 3 s.h. (E) ASSOCIATE PROFESSOR RUDISILL

240. EDUCATIONAL AND OCCUPATIONAL INFORMATION.—A study of the sources of occupational and educational information: methods of securing and organizing occupational information; methods of providing vocational and educational information to students through career days, college conferences, class activities, and individual counseling; methods of making job analyses and community occupational surveys. 3 s.h. (w) ASSISTANT PROFESSOR COLVER

241. PRINCIPLES OF GUIDANCE.—An historical survey of the philosophies of guidance; a study of the interrelationships between instruction, administration, and guidance in education. Prerequisite: 6 hours of psychology or educational psychology. 3 s.h. (w) ASSISTANT PROFESSOR COLVER

246. THE TEACHING OF MATHEMATICS.—This course deals with such topics as aims, curriculum, course and lesson planning, and classroom procedure for teaching secondary-school mathematics. 3 s.h. (E) ASSISTANT PROFESSOR REYNOLDS

253. SCHOOL LAW.—The primary purpose of this course is to familiarize prospective school administrators and teachers with the legal features of school organization and administration. Although some attention is given to constitutional and statutory provisions, the main emphasis is upon court decisions relating to education. Students are expected to select appropriate problems in school law for intensive study. 3 s.h. (E) PROFESSOR BOLMEIER

258. **EDUCATIONAL MEASUREMENTS.**—A critical study of the principles and techniques involved in measurement in education with opportunity for individual research. Prerequisite: 12 semester hours in the Department, including a course in educational psychology. 3 s.h. (E) ASSOCIATE PROFESSOR WEITZ

267. **THE TEACHING OF SCIENCE IN THE ELEMENTARY SCHOOL.**—This course deals with such topics as aims and values, curriculum materials, classroom and laboratory procedures, field trips, lesson planning, and grade placement for science teaching in the elementary school. 3 s.h. (E) ASSISTANT PROFESSOR REYNOLDS

276. **THE TEACHING OF HIGH-SCHOOL SCIENCE.**—Discussion, lectures and collateral reading, related to such topics as aims, tests, curriculum, classroom and laboratory procedure, field trips, course and lesson planning for secondary-school science. 3 s.h. (E) ASSISTANT PROFESSOR REYNOLDS

290. **ADMINISTRATION OF SCHOOL PROPERTY.**—Planning and management of the school plant and its equipment to meet instructional, health, and community needs for immediate and long-range purposes. This course is intended for teachers and principals as well as for superintendents. Areas to be treated include site selection; trends in design, lighting, ventilation and heating; custodial service and maintenance; and financing. 3 s.h. (E) ASSOCIATE PROFESSOR STUMPF
[Not offered in 1955-56.]

NURSING EDUCATION

Students preparing for administrative, teaching, or supervisory positions in schools of nursing must take, in addition to other courses, substantially the same basic program of work in Education as do prospective secondary school teachers, namely, courses 84, 88, 103, 115-116, and 118. Course 101N below is substituted for course 103 in this program. Courses 84N and 115N-116N are sections of courses 84 and 115-116, respectively, designed especially for nurses.

84N. **SOCIAL FOUNDATIONS OF NURSING EDUCATION.**—A special section of Education 84, applied to Nursing Education. A survey of major historical, philosophical, and sociological factors which have affected developments in nursing and nursing education. The purpose of the course is to give the student a better understanding of the place of nursing in present day society and the responsibilities of the individual nurse toward that society. 3 s.h. (w)

ASSISTANT PROFESSOR RAPPAPORT

101N. **THE CURRICULUM IN THE SCHOOL OF NURSING.**—The general principles of curriculum making and the factors which determine the content and organization of the nursing school curriculum are considered in this course. 3 s.h. (w)

ASSISTANT PROFESSOR INGLES

115N-116N. **NURSING EDUCATION: PRINCIPLES AND PRACTICE.**—A special section of Education 115-116. Principles of teaching applied to the nursing school situations and the planning and evaluation of instruction. Ninety hours of observation and of supervised teaching in the Duke University School of Nursing are required. Four hours of conference, observation, and practice teaching are required each week. Before beginning practice teaching students must complete thirty hours of observation. 8 s.h. (w)

ASSISTANT PROFESSOR RAPPAPORT

[Not open to students who have had course 115-116.]

117N. **COMMUNITY NURSING SERVICE.**—Designed for administrators, teachers, and supervisors in schools of nursing. Emphasis is on the integration of outpatient departments and community social and health agencies into the nursing school curriculum and on the preparation of nurses for community service. 3 s.h. (w)

ASSISTANT PROFESSOR MASSEY

120N. **NURSING EDUCATION: PROBLEMS IN NURSING CARE.**—Each student works on an individual problem designed to improve the nursing care of patients. 3 s.h. (w)

ASSISTANT PROFESSORS INGLES AND ZUKOWSKI

124N. NURSING EDUCATION: TEACHING OF THE NURSING ARTS.—In this course an effort is made to help prospective teachers to integrate the facts and principles of the natural, social, and medical sciences into the teaching of nursing arts. Though major emphasis is placed upon problems which are involved in teaching the first course, the concept of the nursing arts as an integral part of each clinical area is stressed. 3 s.h. (w)
STAFF

130N. PSYCHOSOMATIC NURSING.—A study of the close relationship between mind and body in all illness, and of the techniques of observation and interview, both experimental and therapeutic. Lectures, clinics, conferences, discussions and experience with patients. 4 s.h. (w)
ASSISTANT PROFESSOR ZUKOWSKI

131N-132N. PSYCHIATRY AND PSYCHIATRIC NURSING.—An advanced study with special emphasis on personality development and the preventive and therapeutic aspects of psychiatry and psychiatric nursing. In the second semester the management of practical situations of increasing complexity is stressed. Lectures, clinics, conferences, discussions and experience with patients. 8 s.h. (w)
ASSISTANT PROFESSOR ZUKOWSKI

133N. SEMINAR IN PSYCHIATRIC NURSING.—Special study of areas such as behavior problems of children, projective tests, group therapy, mental hygiene clinics, etc. 3 s.h. (w)
ASSISTANT PROFESSOR ZUKOWSKI

134N-135N. ADVANCED MEDICAL AND SURGICAL NURSING.—A study of the medical and surgical aspects of selected diseases, aimed at giving the student a better comprehension of the total care necessary to bring about the best possible results for patients. Lectures, discussions, case histories, and planned observation and experience with patients. 8 s.h. (w)
ASSISTANT PROFESSOR INGLES

136N. SEMINAR IN MEDICAL OR SURGICAL SPECIALTY.—Directed study in a selected medical or surgical specialty. Each student works on a problem of major interest to her. Individual research in the collection of original material. 3 s.h. (w)
ASSISTANT PROFESSOR INGLES

192N. PRINCIPLES AND METHODS OF TEACHING IN SCHOOLS OF NURSING.—The primary purpose of this course is to help teachers in schools of nursing to understand and to utilize generally accepted principles of learning and to carry out a more effective teaching program in a school of nursing. Instruction is given in the planning of courses, in methods of teaching in classrooms and in hospital divisions, in construction of examinations, and in the utilization of other methods of determining the effectiveness of a teaching program. 3 s.h.
ASSISTANT PROFESSOR RAPPAPORT

193N. WARD ADMINISTRATION AND TEACHING.—This course is designed to help head nurses better to understand their functions in planning and managing a program on a hospital division which will result in improved care of patients, greater satisfaction for professional and non-professional personnel, and a more adequate teaching program for students and others. 3 s.h. (w)
PROFESSOR CLARK AND ASSISTANT PROFESSOR INGLES

195N. PERSONNEL WORK IN SCHOOLS OF NURSING.—The primary purpose of this course is to help head nurses and supervisors to develop greater understanding of the principles of human behavior and greater ability to apply these principles in working with patients and others on hospital divisions, and in establishing cooperative relationships with other departments of the hospital. 3 s.h. (w)
PROFESSOR JACOBANSKY

DEPARTMENTAL MAJOR

Major Requirements: 1. Number of hours needed; 24 hours in the Department. 2. Required courses: 84, 88, 103, 118; and for elementary teachers, 101-102; for secondary teachers, 215-216.

Related Work: Sufficient work in subjects to be taught to meet certification requirements in state in which student intends to teach.

MATERIALS AND METHODS COURSES

Certain courses concerned with materials and methods in teaching the various subjects in the public school curriculum are listed in the proper subject matter department. These courses are intended to give credit on teaching certificates and are recommended by the Department of Education for such credit.

ENGLISH

PROFESSOR WARD, CHAIRMAN; PROFESSOR BEVINGTON, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR BOWMAN, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS BAUM, BLACKBURN, BOYCE, BRINKLEY, GILBERT, GOHDES, IRVING, SANDERS, AND TURNER; VISITING LECTURER WOODRESS; ASSOCIATE PROFESSORS HARWELL, MITCHELL, PATTON, REARDON, AND WHITE; ASSISTANT PROFESSORS BEVINGTON, BUDD, JORDAN, POTEAT, SCHWERMAN, AND WETHERBY; DRs. BOWERS, BROOKS, FRASER, KOTTLER, LANE, MAJOR, REICHARD, SMITH, AND WICKES; MISS LIBBY; MESSRS. HOLMES, KEIRCE, MICHALAK, NEWELL, TEETS, AND WOODS

L. ENGLISH FUNDAMENTALS.—All freshmen whose scores on the placement tests indicate that they are not ready for English 1 must take this course. Students who fail in English L must repeat the course. Students who have earned credit in English L must also take English 1 and 2. 3 s.h. (w)

ASSISTANT PROFESSOR JORDAN AND MR. NEWELL

1-2. ENGLISH COMPOSITION.—All freshmen are required to take course 1 and course 2. (For exemptions, see Uniform Course Requirements, p. 89.)

Students who fail in English 1 or 2 must repeat the course in the following semester. Students in courses 1 and 2 who fail to make an average of "C" or better are strongly advised to earn credit for an additional course in English composition. 6 s.h. (E & w)

PROFESSORS BEVINGTON AND WARD; ASSOCIATE PROFESSORS BOWMAN, HARWELL, MITCHELL, PATTON, AND WHITE; ASSISTANT PROFESSORS BEVINGTON, BUDD, JORDAN, AND POTEAT; DRs. BOWERS, BROOKS, FRASER, KOTTLER, LANE, MAJOR, REICHARD, SMITH, AND WICKES; MISS LIBBY; MESSRS. HOLMES, KEIRCE, NEWELL, TEETS, AND WOODS

33. WRITING LABORATORY.—A non-credit course in elementary composition which may be elected by students who need it, or may be required of certain students under the conditions stated on page 87, "Deficiencies in Composition." Students may enter or leave this course at any time, at the instructor's discretion. (w)

ASSOCIATE PROFESSOR HARWELL AND ASSISTANT JORDAN

53. ENGLISH COMPOSITION.—A course in advanced composition and grammar. Emphasis is placed first on the student's mastering the fundamental principles of English grammar and the other essentials of correct writing. Weekly themes are required. 3 s.h. (w)

ASSISTANT PROFESSOR JORDAN

65-66. ENGLISH COMPOSITION.—A foundation course in imaginative writing, both prose and verse. Open to sophomores and in special cases to freshmen. The consent of the instructor is required. 6 s.h. (E)

PROFESSOR SANDERS

E-93. ADVANCED COMPOSITION FOR ENGINEERS.—This course concentrates on those forms of writing most needed by men in technical fields, especially engineers. Among other types of writing, it includes business letters, technical reports, and semi-technical articles. Open to non-engineering students only upon consent of the instructor. Prerequisite: English 1 and 2. 3 s.h. (w)

ASSOCIATE PROFESSOR HARWELL AND MR. HOLMES

101-102. EXPOSITORY ENGLISH COMPOSITION.—The course attempts to encourage fluency and accuracy in expository expression. Primarily for juniors and seniors; open also to sophomores approved by the instructor. 6 s.h. (E)

[Not offered 1955-56]

ASSOCIATE PROFESSOR MITCHELL

103-104. ENGLISH COMPOSITION.—A course in descriptive and narrative writing. Class discussion of students' manuscripts, supplemented by a critical evaluation of a few selected short stories and by individual conferences with the instructor. Open to sophomores, juniors, and seniors. The consent of the instructor should be secured as early as possible in the spring semester. Prerequisites for English 104: English 103. 6 s.h. (E) PROFESSOR BLACKBURN

107-108. JOURNALISM.—The first semester is devoted to news-writing and copy-reading; the second semester to the writing of feature articles and editorials. 6 s.h. (w)

[Not offered 1955-56]

SPEECH AND DRAMA

118. PERSUASIVE SPEAKING.—The psychological and sociological techniques used in gaining acceptance of ideas through speech. Study is made of the factors influencing human behavior; audience analysis and motivation; choice, arrangement, and adaptation of material. Extensive practice in persuasive speaking. Prerequisite: English 151 or consent of the instructor. 3 s.h. (w) ASSISTANT PROFESSOR WETHERBY

119. HISTORY OF THE THEATRE.—The origin and development of drama, acting, and stagecraft from ancient Greece to the modern European and American theatre. Production problems of representative plays of the various periods will be discussed. Primarily for juniors and seniors, open also to sophomores approved by the instructor. 3 s.h. (E) ASSOCIATE PROFESSOR REARDON

121. STAGECRAFT.—An introductory course on the technical aspects of play production: scenery, lighting, properties, make-up, and costuming. Lectures and laboratory. Laboratory work will be coordinated with the various productions of the Duke Players. Primarily for juniors and seniors; open also to sophomores approved by the instructor. 3 s.h. (E)

ASSOCIATE PROFESSOR REARDON AND MR. MICHALAK

122. PLAY PRODUCTION.—An introduction to the methods of producing a play: theatre organization, play selection, casting, and rehearsal. Lectures and laboratory. Primarily for juniors and seniors; open also to sophomores approved by the instructor. 3 s.h. (E) ASSOCIATE PROFESSOR REARDON AND MR. MICHALAK

139. THE SPEAKING VOICE.—The correction of minor functional speech disorders. The speech organs and their function. The International Phonetic Alphabet and its use. Drill in pronunciation, diction, vocal quality. Primarily for sophomores, juniors, and seniors; also open to freshmen with the consent of the instructor. 3 s.h. (E & w) ASSISTANT PROFESSORS SCHWERMEN AND WETHERBY

[Offered both semesters]

150. ORAL INTERPRETATION OF LITERATURE.—A study of poetry and certain types of prose, with practice in the technique by which they may be communicated to an audience. 3 s.h. (w) ASSISTANT PROFESSOR SCHWERMEN

151. ESSENTIALS OF PUBLIC SPEAKING.—A basic course in public speaking, designed to give the student the poise and confidence necessary to think and speak freely before an audience. Particular attention is paid to the gathering and organization of speech materials and to oral presentation. 3 s.h. (E & w)

ASSOCIATE PROFESSOR REARDON; ASSISTANT PROFESSORS SCHWERMEN, AND WETHERBY; MR. MICHALAK

[Offered both semesters]

152. ARGUMENTATION.—The principles of argumentation and debating. The techniques of analysis, investigation, evidence, reasoning, brief making, and refutation. Participation in class discussions and debates. Prerequisite: English 151 or consent of the instructor. 3 s.h. (w) ASSISTANT PROFESSOR WETHERBY

[Offered in the fall semester]

171, 172. RADIO BROADCASTING.—The theory and practice of radio broadcasting. The purpose, preparation, and production of various types of radio programs. There will be experience before a microphone in a studio situation. Laboratory work both semesters. Primarily for juniors and seniors; open also to sophomores approved by the instructor. 6 s.h. (w)

ASSISTANT PROFESSOR WETHERBY AND MR. MICHALAK

ENGLISH AND AMERICAN LITERATURE AND LANGUAGE

55, 56. REPRESENTATIVE WRITERS.—The following works are studied in the first semester: Chaucer's Prologue to *The Canterbury Tales* and at least two tales, Shakespeare's *1 Henry IV* and *King Lear* and one other play, Jonson's *The Alchemist*, John Donne's poems, Milton's *Paradise Lost* (selections) and some of the shorter poems; in the second semester: Pope's *Poems* (selections), Fielding's *Joseph Andrews*, Keats's *Poems and Letters*, Arnold's *Selected Poetry and Prose*, Dickens's *Bleak House*, Yeats's *Collected Poems*, Shaw's *Saint Joan*, and a twentieth-century novel.

PROFESSORS BEVINGTON, BLACKBURN, BOYCE, IRVING, SANDERS, AND TURNER;
ASSOCIATE PROFESSORS BOWMAN, MITCHELL, AND PATTON; ASSISTANT
PROFESSORS BEVINGTON AND POTEAT; DRs. BOWERS, FRASER,
KOTTLER, LANE, MAJOR, REICHARD, SMITH, AND WICKES

111, 112. EIGHTEENTH-CENTURY LITERATURE.—A study of the leading English poets, essayists, dramatists, and novelists from Swift to Blake, with the literary and social background. The major writers studied in the first term are Pope, Swift, Fielding, and Thomson; in the second term, Johnson, Goldsmith, Cowper, and Blake. Tests, discussions, and reports on outside readings. 6 s.h. (E)

PROFESSOR BOYCE AND DR. REICHARD

117. MILTON.—Milton's poetry and prose, together with their relation to the period and to other great works of literature. Lectures, discussion, occasional tests, one or two papers. 3 s.h. (E)

PROFESSOR BRINKLEY

123, 124. SHAKESPEARE.—In the first semester twelve plays, before 1600; in the second semester ten plays, after 1600. Occasional tests and one or two papers. 6 s.h. (E & W)

PROFESSOR BOYCE; ASSOCIATE PROFESSOR
BOWMAN; DR. FRASER

125, 126. ENGLISH LITERATURE, 1789-1832.—The course begins with selections from the poetry of the forerunners of Romanticism. The chief emphasis in the first semester is on the work of the older Romantics: Wordsworth, Coleridge, Southey, Scott, and Lamb. In the second semester the chief emphasis is on the work of the younger Romantics: Byron, Shelley, Keats, Leigh Hunt, Hazlitt, and DeQuincey. Informal lectures and class discussion of assigned texts. A limited amount of outside reading is required and also some memory work. There are four tests each semester. 6 s.h. (E & W)

ASSOCIATE PROFESSOR PATTON;
DRs. BROOKS AND LANE

129, 130. ENGLISH NOVEL.—The work of the first semester covers the history of the novel through Scott; that of the second semester, from Dickens through Hardy. Lectures and book reports. 6 s.h. (E)

ASSOCIATE PROFESSOR MITCHELL
AND DR. REICHARD

131, 132. ENGLISH LITERATURE, 1832-1900.—A study of the chief English writers of poetry, prose, and drama from Carlyle to Yeats. The major writers studied in the first semester are Carlyle, Tennyson, Browning, Macaulay, Mill, Newman, and Arnold; in the second semester, Ruskin, the Rossettis, Morris, Swinburne, Shaw, and Yeats, with selections from minor writers. Collateral reading from novels of the period. Lectures, discussions, tests, and a term paper. 6 s.h. (E & W)

PROFESSORS BEVINGTON AND SANDERS

134. CONTEMPORARY POETRY.—A reading course in the poetry of the twentieth century in England, Ireland, and America, beginning with Gerard Manley Hopkins, and William Butler Yeats. An anthology of modern poetry is read and discussed, supplemented by the wider reading of individual poets. Informal lectures and discussions with a critical paper for the term. Open to juniors and seniors, and occasionally to sophomores by special permission. 3 s.h. (E)

ASSISTANT PROFESSOR BEVINGTON

137, 138. AMERICAN LITERATURE.—A survey of American literature from colonial times to the present. Selections from the works of important authors are read, from Cotton Mather to Eugene O'Neill, and complete novels by Hawthorne, Melville, James, Howells, and others. The work of the first semester ends with the Civil War period. Lectures, monthly tests, and a term paper each semester. 6 s.h. (E & W)

PROFESSORS GOHDES AND TURNER; ASSISTANT PROFESSOR
BUDD; VISITING LECTURER WOODRESS

141. CHAUCER.—*The Canterbury Tales* and the minor poems, with attention to their literary, social, and religious background. Lectures, discussions and reports. 3 s.h. (w) DR. KOTTLER

142. MATERIALS AND METHODS OF TEACHING HIGH SCHOOL ENGLISH.—A course in the materials and methods of teaching high school English, planned by the Southern Association of Colleges and Secondary Schools, for the purpose of familiarizing prospective teachers with both the subject matter and the methods of teaching. 3 s.h. (E) ASSISTANT PROFESSOR JORDAN

143, 144. ENGLISH LITERATURE: ELIZABETHAN AND EARLY SEVENTEENTH CENTURY.—A study of the prose, poetry, and drama of the period. First semester: the emphasis in prose is on Sidney; in poetry, on Spenser and Shakespeare; in drama, on Marlowe and Jonson. Second semester: the emphasis in prose is on the English Bible, Bacon, Browne; in poetry, on Donne and on the early poems of Milton; in drama, on Webster and Ford. Lectures, tests, and one or two brief papers. 6 s.h. (E) PROFESSOR BLACKBURN

153, 154. COMPARATIVE LITERATURE.—Important works in European literature are read in translation and related to similar documents in English literature. In the first semester are read: nine Greek tragedies, five of Plato's *Dialogues*, Vergil's *Aeneid*, Dante's *Inferno*, and Cellini's *Autobiography*; in the second semester, Machiavelli, Cervantes, Molière, Voltaire's *Candide*, Goethe's *Faust*, Dostoevski's *The Brothers Karamazov*, Ibsen's plays. Discussions, tests, reports. 6 s.h. (E) PROFESSOR IRVING

155. MODERN EUROPEAN DRAMA.—The emphasis is on Ibsen, Strindberg, and Chekhov, and on the Free Theatre movements. Some quite recent plays will also be studied. 3 s.h. (E) ASSOCIATE PROFESSOR WHITE

156. MODERN BRITISH AND AMERICAN DRAMA.—Types of drama are studied in relation to European origins and to contemporary scene. The students subscribe to *Theatre Arts*. 3 s.h. (E) ASSOCIATE PROFESSOR WHITE

158. CONTEMPORARY FICTION.—Wide reading in twentieth-century novelists, with special attention to innovations in form and technique. Lectures, discussions, and weekly critical reports. 3 s.h. (w) DR. SMITH

160. ENGLISH LITERARY BIOGRAPHY.—A reading course in great biographies. Studied are works of Plutarch, Walton, Johnson, Southey, Lockhart, Henry Adams, and Strachey. Lectures, discussions, reports, tests. 3 s.h. (E) PROFESSOR SANDERS

PROFESSOR SANDERS

[Not offered 1955-56]

161, 162. MODERN ENGLISH AND ITS BACKGROUNDS.—An elementary historical and descriptive study of the English language: patterns of change and growth, standards of usage and pronunciation. Some attention is given to the methods of linguistic inquiry and to the relations of philology to literary studies. The first semester is devoted chiefly to a historical study of written and spoken English, the second to a description of modern American English. Lectures, discussions, and short reports. 6 s.h. (E) DR. KOTTLER

165. AMERICAN FICTION.—A survey of fiction in America from its beginnings to 1870, with emphasis on the development of the short story. Lectures, discussions, and frequent written reports. 3 s.h. (E) ASSISTANT PROFESSOR BUDD

166. AMERICAN FICTION.—A survey of fiction in America from 1870 to the present, with emphasis on the local color movement and the rise of realism. Lectures, discussions, and frequent written reports. 3 s.h. (E) ASSISTANT PROFESSOR BUDD

ASSISTANT PROFESSOR BUDD

FOR SENIORS AND GRADUATES

201, 202. ANGLO-SAXON.—In the first semester, an introduction to the language, with the reading of selected prose and of some of the shorter poems; in the second semester, the *Beowulf*. 6 s.h. (w) PROFESSOR BAUM

PROFESSOR BAUM

203, 204. CHAUCER.—Reading and interpretation of the text: in the first semester the principal *Canterbury Tales*; in the second, the *Troilus* and the minor poems. A reading report and a term paper. 6 s.h. (w) PROFESSOR BAUM

205, 206. MIDDLE ENGLISH.—Close study of selected texts, with attention to the development of the language and to the history of the literature from 1200 to 1400. A term paper each semester. 6 s.h. (w) PROFESSOR BAUM
[Not offered in 1955-56]

215, 216. ELIZABETHAN DRAMA.—Careful study of one or two major dramatists (Jonson or Beaumont and Fletcher) and extensive reading in the other writers (Heywood, Ford, Massinger, Marlowe, Middleton) with emphasis on the nature and qualities of their work in relation to its historical background. Exposition of plays, reports, and a term paper each semester. 6 s.h. (w) PROFESSOR GILBERT

217. MILTON.—Milton's poetry and prose, with emphasis on the major poems. 3 s.h. (w) PROFESSOR GILBERT
[Not offered in 1955-56]

218. SPENSER.—The reading of Spenser's works, with chief attention to *The Faerie Queene*. 3 s.h. (w) PROFESSOR GILBERT
[Not offered in 1955-56]

219, 220. THE EIGHTEENTH CENTURY.—Swift, Pope, Defoe, Addison, Steele, and others are studied in the first semester; in the second, Gray, Johnson, Boswell, Goldsmith, the letter writers, and the early Romantic poets. Lectures, oral reports, and a term paper each semester. 6 s.h. (w) PROFESSOR IRVING

221, 222. ENGLISH LITERATURE OF THE EARLY NINETEENTH CENTURY.—A survey of the principal writers and literary monuments from 1798 to 1830; in the first semester chiefly Wordsworth, Coleridge, and Lamb; in the second, Shelley, Byron, Keats, and Hazlitt. Occasional lectures, frequent classroom discussions of reading assignments, written and oral reports, and a term paper each semester. 6 s.h. (w)
[Not offered in 1955-56]

223, 224. ENGLISH LITERATURE OF THE LATER NINETEENTH CENTURY.—Some of the most important works of the period are discussed; the background is filled in by lectures and assigned reading. The first semester is devoted chiefly to Carlyle, Dickens, Thackeray, Tennyson, and Browning; the second semester to Arnold, Ruskin, Pater, George Eliot, Meredith, the Pre-Raphaelites, and Swinburne. A term paper each semester. 6 s.h. (w) PROFESSOR BAUM
[Not offered in 1955-56]

227. LITERARY CRITICISM.—A study of the Greek and Roman critics, in chronological order but with emphasis on their permanent value rather than on the mere history; also the Continental and English critics to about 1700. Lectures, reports, and a term paper. 3 s.h. (w) PROFESSOR GILBERT
[Not offered in 1955-56]

229, 230. AMERICAN LITERATURE, 1800-1870.—The writers emphasized in the first semester are Emerson, Thoreau, and Hawthorne; in the second semester, Poe and Melville. In the first semester some attention is given also to Edwards, Franklin, Bryant, Longfellow, Holmes, Whittier, Lowell, and Parkman; and in the second semester, to Byrd, Jefferson, Paine, Freneau, Brown, Irving, Cooper, Kennedy, Simms, Timrod, and Lincoln. An oral report and a term paper in the first semester. 6 s.h. PROFESSOR TURNER

231. EMERSON.—A study of Emerson's ideas as reflected in selected examples of his essays and poems. 3 s.h. PROFESSOR GOHDES
[Not offered in 1955-56]

232. WHITMAN.—A detailed study of *Leaves of Grass* and of selected prose works. One test and one term paper. 3 s.h. (E) PROFESSOR GOHDES
[Not offered in 1955-56]

233. AMERICAN LITERATURE 1870-1900.—Selected works of the chief authors of the period, including Whitman, Lanier, Mark Twain, James, Howells, Crane, and Emily Dickinson. The lectures will deal with the social background as well as the literary trends and the careers of the major authors. One test and one term paper. 3 s.h.
 PROFESSOR GOHDES AND VISITING LECTURER WOODRESS

234. AMERICAN LITERATURE OF THE TWENTIETH CENTURY.—Selected works of representative authors, including Dreiser, Edith Wharton, Mencken, Lewis, Willa Cather, O'Neill, Robinson, Frost, Eliot, Hemingway, and Faulkner. The lectures will deal primarily with literary trends as shaped by the social background. One test and one term paper. 3 s.h.
 PROFESSOR GOHDES AND VISITING LECTURER WOODRESS

239. SHAKESPEARE.—A study of the plays and poems, with attention to sources, earlier criticism, and the work of Shakespeare's contemporaries. 3 s.h. (w)
 [Not offered in 1955-56] PROFESSOR GILBERT

245. THE EIGHTEENTH-CENTURY NOVEL.—Richardson, Fielding, Smollett, and Sterne are emphasized. Some attention is given to earlier prose fiction and to other contributing literary patterns. Lectures and short papers. 3 s.h. (w)
 [Not offered in 1955-56] PROFESSOR BOYCE

251, 252. ENGLISH LITERATURE IN THE SEVENTEENTH CENTURY.—A survey course. The major works in prose, poetry, and drama from 1600 to the death of Dryden. Lectures, reports, and term papers. 6 s.h. (w)
 PROFESSOR WARD

269, 270. SOUTHERN LITERATURE.—The principal authors and the chief literary developments from the beginnings to the present. Emphasis in the first semester is on Byrd, Kennedy, Simms, Poe, Timrod, and the humorists; in the second on Lanier, Harris, Cable, Mark Twain, Ellen Glasgow, and Faulkner. Attention is given to the historical and cultural background and to literary relations extending outside the region. 6 s.h.
 PROFESSOR TURNER

274. AMERICAN HUMOR.—The development of the native tradition in the Down-East humorists and the humorists of the Old Southwest. Extensive reading in Mark Twain and his contemporaries, and some attention to the continuation of the tradition after Mark Twain. 3 s.h.
 [Not offered in 1955-56] PROFESSOR TURNER

DEPARTMENTAL MAJOR

Prerequisite: English 1 and 2.

Major Requirements: Twenty-four semester hours in English and American literature including the following:

1. Six hours in English 55-56.
2. Six hours in one of five designated period courses (143-144, 111-112, 125-126, 131-132, 137-138).
3. Three hours in one of the major authors, Chaucer, Shakespeare, or Milton (203, 204, 141, 123, 124, 117).
4. Nine hours, distributed as follows:
 - (a) Three hours of English literature before 1800. Students who have chosen 143-144 or 111-112 for the period course may substitute any three-hour course approved by their adviser.
 - (b) Three hours of English literature after 1800. Students who have chosen 125-126 or 131-132 for the period course may substitute any three-hour course approved by their adviser.
 - (c) Three hours of American literature. Students who have chosen 137-138 for the period course may substitute any three-hour course approved by their adviser.

Related work: Eighteen semester hours, which may include appropriate courses in history, aesthetics, art, music, languages, literature in translation, philosophy, or courses in composition, dramatics, and speech. Related work must be taken in at least two departments.

Electives: Students may use 12 hours of their free electives for additional work in English and American literature. The maximum credit in such courses may not exceed 36 hours. A total of 54 semester hours' credit in the department is allowed. Students who are looking forward to graduate work should take as many of the period courses as possible. No more than five seniors may be admitted to any course on the 200 level.

FORESTRY

Students without a Bachelor's degree who are preparing for work in forestry as a profession should take the courses outlined under the Academic-Forestry Combination in the section on Requirements for Degrees. However, with the consent of the instructor in charge, certain forestry courses may be elected by students in other curricula provided they have had adequate preparation (see *Bulletin of the School of Forestry*).

Members of the sophomore, junior, and senior classes, whether or not registered in the Academic-Forestry Combination, may elect the following course:

52. **PRINCIPLES OF FORESTRY.**—Introduction to forestry in the United States; growth of trees and forests; social and economic problems in developing America's primary renewable natural resource; contribution of forests to the national economy. 2 s.h. (w)

ASSISTANT PROFESSOR STOLTENBERG

GEOLOGY

PROFESSOR BERRY, CHAIRMAN AND DIRECTOR OF UNDERGRADUATE STUDIES;
ASSISTANT PROFESSOR HERON AND MR. FURBISH

51. **GENERAL GEOLOGY.**—This course is designed to give a general view of the surface features of the earth, their origin, structure, and materials. Illustrative materials are studied in the laboratory. Excursions are made to neighboring points where the principles of the science are studied in the field. Three one-hour lectures or recitations and one three-hour laboratory. 4 s.h. (E)

ASSISTANT PROFESSOR HERON AND MR. FURBISH

52. **GENERAL GEOLOGY.**—This course is designed to give some knowledge of the chief events of the earth's history. Excursions will be made to suitable neighboring localities. Three one-hour lectures or recitations and one three-hour laboratory. Prerequisite: Geology 51. 4 s.h. (E)

ASSISTANT PROFESSOR HERON AND MR. FURBISH

55. **STRUCTURAL GEOLOGY.**—A study of the structural features of the earth's crust. Three one-hour lectures. Prerequisite: Geology 51, 52. 3 s.h. (E)

ASSISTANT PROFESSOR HERON

58. **GEOMORPHOLOGY.**—A detailed study of the process at work on the land surface and the topographic forms produced by them under different climatic conditions. This course includes practice in the interpretation of topographic maps. Three one-hour lectures or recitations and one three-hour laboratory. 4 s.h. (E)

PROFESSOR BERRY

101-102. **MINERALOGY.**—This course is devoted to a study of the fundamentals of crystallography and the crystal groups, using crystal models and crystallized minerals. Followed by the systematic study of about 175 important minerals. Determinative work includes exercises on sight recognition, identification by blow-pipe, and other physical and chemical tests. Excursions will be made to neighboring mineral localities. Three two-hour periods. Prerequisite: Chemistry 1-2 (can be taken concurrently). 8 s.h. (E)

PROFESSOR BERRY

151. **ECONOMIC GEOLOGY.**—Study of world distribution, geologic occurrence, and uses of important mineral deposits. Three one-hour lectures or recitations and one three-hour laboratory. Prerequisite: Geology 101-102. 4 s.h. (E)

PROFESSOR BERRY

152. INTRODUCTORY PALEONTOLOGY.—Systematic study of invertebrate paleontology, dealing mainly with generic characters of the fossil invertebrates and their use in identifying and correlating geologic formations. Three one-hour lectures or recitations and one three-hour laboratory. Prerequisites: Geology 51, 52, and Zoology 2. 4 s.h. (E) PROFESSOR BERRY

164. INTRODUCTION TO GEOLOGIC MAPPING.—An introduction to the fundamental principles and techniques used in geologic mapping, including applicable methods of surveying, the use of aerial photographs, the interpretation of geologic maps, and the solution of problems in geologic relationships. Field excursions will be made when possible. Two hours of lecture and three hours of laboratory each week. Prerequisites: Geology 51, 52, 55, 151. 3 s.h. (E)

ASSISTANT PROFESSOR HERON

DEPARTMENTAL MAJOR

Prerequisites: Chemistry 1-2; Zoology 2, Geology 51, 52.

Major Requirements: 1. Number of hours needed, 30 s.h. 2. Required courses, Geology 55, 101-102, 151, 152, 164. 3. Recommended courses, Geology 58.

Related Work: 1. Number of hours needed for A.B., 12 s.h.; for B.S., 18 s.h. 2. Required courses, 1 year Mathematics. 3. Departments in which related work is usually taken, Chemistry, Economics 115-116, Mathematics, Physics, Sociology 93, Zoology, and General Engineering.

GERMANIC LANGUAGES AND LITERATURE

PROFESSOR VOLLMER, CHAIRMAN; ASSOCIATE PROFESSOR MAXWELL, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR WILSON, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSOR SHEARS AND MR. YATES

All courses except Elementary and Intermediate German may be taken for one semester only, when circumstances make it advisable.

1-2. ELEMENTARY GERMAN.—6 s.h. (E & W)

ASSOCIATE PROFESSOR MAXWELL AND STAFF

3-4. INTERMEDIATE GERMAN.—6 s.h. (E & W)

ASSOCIATE PROFESSOR WILSON AND STAFF

51, 52. INTRODUCTION TO GERMAN LITERATURE.—A third year course. Both literary and linguistic factors are combined with practice in the spoken language. 6 s.h. (W) PROFESSOR SHEARS AND STAFF

For courses in the 100 and 200 group which will be offered in 1955-1956, please consult list furnished by Dean's office before registration. The only prerequisite for 100 group courses is German 3-4.

107, 108. SCIENTIFIC GERMAN.—The German language as used in the various contemporary sciences. 6 s.h. (W) ASSOCIATE PROFESSORS MAXWELL AND WILSON

109, 110. GERMAN PROSE FICTION.—Origin and development of the German novel with special emphasis on the nineteenth century. 6 s.h.

ASSOCIATE PROFESSOR WILSON

115, 116. GERMAN DRAMA OF THE NINETEENTH CENTURY.—A study of leading dramatists from Kleist to Hauptmann. 6 s.h. ASSOCIATE PROFESSOR WILSON

117, 118. GERMAN CONVERSATION.—A course in writing and speaking German for properly qualified students. 6 s.h.

PROFESSOR VOLLMER; ASSOCIATE PROFESSOR MAXWELL AND PROFESSOR SHEARS

125, 126. CONTEMPORARY GERMAN LITERATURE.—A study of representative works of the twentieth century. 6 s.h. PROFESSOR SHEARS

127, 128. SURVEY OF MODERN GERMAN LITERATURE.—Excerpts from novels, poems and short stories illustrating the development of modern German literature are read. 6 s.h. PROFESSOR VOLLMER

131, 132. INTRODUCTION TO GOETHE.—The reading of his early novels and epics and works pertaining to his life. 6 s.h. ASSOCIATE PROFESSOR MAXWELL

203, 204. EIGHTEENTH CENTURY.—Eighteenth-century German literature in its relation to contemporary European philosophy. 6 s.h. (w) PROFESSOR VOLLMER

207, 208. GERMAN ROMANTICISM.—The course covers the entire field of German romanticism from 1800 to 1850. 6 s.h. (w) PROFESSOR VOLLMER

209, 210. KLEIST, GRILLPARZER, AND HEBBEL.—The dramatic development in Germany after Schiller. 6 s.h. (w)

211, 212. HEINRICH HEINE AND HIS TIME.—Heine's life and thought, and the contemporary European culture. 6 s.h. (w) PROFESSOR VOLLMER

213, 214. LITERATURE OF THE EMPIRE, 1871-1914.—A study of the literature of this period with emphasis on a few leading writers. 6 s.h. (w)

PROFESSOR SHEARS

DEPARTMENTAL MAJOR

1. *Prerequisites:* German 1-2 and 3-4.

2. *Major Requirements:* Twenty-four semester hours in the German Department. Twelve of these must be selected from the 200 courses. The remaining twelve may be selected from German 51-52 and any courses in the 100 group except 119-120.

3. *Related Work:* Eighteen semester hours, chosen from the Humanities with the approval of the German Department.

GOVERNMENT

See courses listed under Political Science.

GREEK

ASSOCIATE PROFESSOR TRUESDALE, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR ROSE, SUPERVISOR OF FRESHMAN INSTRUCTION;
ASSOCIATE PROFESSOR WAY

Courses 15, 121, 122, 131, 141, 142 are entirely in English and require no knowledge of the Greek language. The purpose in offering them is to give a wider circle of students some conception of the debt which modern civilization owes to the Greeks.

1-2. COURSE FOR BEGINNERS.—Open to all students. 6 s.h. (w)

ASSOCIATE PROFESSOR TRUESDALE

15. MYTHOLOGY.—A study of Greek mythology and the use made of it in art and English literature. No knowledge of the Greek language is required. Open to freshmen as an elective in either semester. 3 s.h. (w & e)

ASSOCIATE PROFESSORS TRUESDALE AND WAY

53-54. XENOPHON.—*Anabasis*, Books I-IV. Open to students who have completed course 1-2. 6 s.h. (w)

ASSOCIATE PROFESSOR ROSE

105-106. HOMER.—*Iliad*, Books I-III. PLATO.—*Apology* and *Crito*. Open to students who have completed courses 1-2 and 53-54 or their equivalents. 6 s.h. (w)

ASSOCIATE PROFESSOR TRUESDALE

107-108. EURIPIDES.—*Medea*. SOPHOCLES.—*Oedipus Tyrannus*. ARISTOPHANES.—*Clouds*. Open to students who have completed the required preliminary work. 6 s.h. (w)

ASSOCIATE PROFESSOR WAY

115-116. SIGHT READING IN GREEK.—Three hours per week through the year. 4 s.h. (w)

ASSOCIATE PROFESSOR TRUESDALE

117-118. GREEK PROSE COMPOSITION.—The character of this course is determined by the needs of the students enrolled. 3 s.h. (w) ASSOCIATE PROFESSOR ROSE

121, 122. GREEK LITERATURE IN ENGLISH TRANSLATION.—The purpose of this course is to give a general survey of the life and civilization of the Greeks,

especially to those who have never studied the language but wish to become acquainted with some of the choicest portions of the literature by the use of translations. It is, however, open as an elective to all juniors and seniors, whether they know Greek or not. First, the *Iliad* and the *Odyssey* are read in translation and illustrated with stereopticon views of the excavations and discoveries at Troy and other cities of the Aegean age; then, many of the extant plays of the three great tragic poets are studied in English translation. 6 s.h. (W & E)

ASSOCIATE PROFESSORS ROSE AND TRUESDALE

Students may elect course 122, whether they have taken course 121 or not.

131. HISTORY OF GREECE.—The history of the Greek world from the Late Bronze Age to the Macedonian conquest. Open to seniors, juniors, and (by arrangement) sophomores. No knowledge of Greek is required. 3 s.h. (E)

ASSOCIATE PROFESSOR WAY

141, 142. GREEK ART.—(May be treated as two semester-courses.) Open to seniors, juniors, and sophomores. A comprehensive survey of the development of Greek architecture and Greek sculpture in all periods. Course 141 is opened by a preliminary account of Egyptian, Mesopotamian, and Aegean artistic backgrounds. Course 142 is devoted chiefly to Greek art of the greatest period with the main emphasis on sculpture, and may be elected independently of course 141. All lectures are fully illustrated by slides. No knowledge of Greek is required. 6 s.h. (E)

ASSOCIATE PROFESSOR WAY

201-202. GREEK TRAGEDY.—6 s.h. (W)

ASSOCIATE PROFESSOR TRUESDALE

203-204. HOMER.—*Odyssey*. PINDAR AND BACCHYLIDES. 6 s.h. (W)

ASSOCIATE PROFESSOR TRUESDALE

207-208. GREEK ORATORS.—Selected speeches. 6 s.h. (W)

ASSOCIATE PROFESSOR WAY

209-210. PLATO.—*Symposium*, *Protagoras*, and parts of the *Republic*. 6 s.h. (W)

ASSOCIATE PROFESSOR WAY

Only one of the year-courses for seniors and graduates (201-210), listed above, is offered each year.

243. ATHENIAN TOPOGRAPHY.—The topography and monuments of ancient Athens. 3 s.h. (W)

ASSOCIATE PROFESSOR WAY

244. GREEK EPIGRAPHY.—Lectures on the history of the alphabet and the development of the local Greek alphabets, followed by extensive reading of inscriptional texts in facsimile. 3 s.h. (W)

ASSOCIATE PROFESSOR WAY

245. GREEK DIALECTS.—A linguistic study of transliterated inscriptions illustrative of the major Greek dialects. The interrelations of the dialectal forms are examined with reference, where possible, to their origin in protoethnic Greek. 3 s.h. (W)

ASSOCIATE PROFESSOR WAY

246. GREEK HISTORICAL INSCRIPTIONS.—The more valuable historical inscriptions are read in chronological order and interpreted in their general bearing upon the course of Greek history. 3 s.h. (W)

ASSOCIATE PROFESSOR WAY

247-248. GREEK ARCHAEOLOGY.—Advanced course in the general field for seniors and graduates, comprising architecture, sculpture, vases, and the minor arts. 6 s.h. (W)

ASSOCIATE PROFESSOR WAY

Of the courses numbered from 243 to 248 only two semester-courses are offered each year.

DEPARTMENTAL MAJOR

Prerequisite: Greek 1-2.

Major Requirements: A candidate for a major in Greek must complete 24 semester hours, including the following courses: Greek 53-54, 105-106, 107-108, 117-118, and 131.

Related Work: Eighteen semester hours selected from at least two other depart-

ments subject to the approval of the Greek Department. Appropriate courses are chosen usually in Latin, Philosophy, Art, and English.

Graduates of Duke University may attend the American School of Classical Studies at Athens, Greece, without charge for tuition and are eligible to compete for the fellowships that are offered annually by the School. These consist of two fellowships in Greek archaeology and one in the language, literature, and history of ancient Greece, each with a stipend of \$2,000. They are awarded mainly on the basis of examinations held in the beginning of February of each year.

HEALTH AND PHYSICAL EDUCATION

TRINITY COLLEGE AND THE COLLEGE OF ENGINEERING

MR. CAMERON, DIRECTOR; PROFESSOR AYCOCK, DIRECTOR OF UNDERGRADUATE STUDIES AND SUPERVISOR OF FRESHMAN INSTRUCTION; ASSISTANT PROFESSORS BLY, BRADLEY, COX, FALCONE, HARRISON, MONTFORT, AND PERSONS;
MESSRS. DRAGO, AND SORESENSEN

REQUIRED PHYSICAL EDUCATION FOR MEN

A student must complete four semesters of physical education in order to fulfill graduation requirements.

All students are given a medical and physical examination before registration. Students who have physical handicaps must register in Corrective Physical Education. Students assigned to these classes will take work suited to their particular needs and capacities.

Students without defects will register in Physical Education 1 and 2 in their freshman year. The activities are selected from the following: Apparatus, combative games (fundamentals of basketball, soccer, volleyball), swimming and tumbling. Swimming is required each semester of freshman year.

After a student has completed Physical Education 1 and 2, he may complete his physical education requirement by electing and satisfactorily completing two courses from the following individual and team sports: 51. Apparatus-Tumbling; 52. Badminton; 53. Basketball-Handball; 54. Boxing-Wrestling; 55. Lacrosse-Soccer; 56. Swimming, advanced; 57. Tennis-Volleyball.

For information concerning gymnasium uniforms see page 189.

ELECTIVES IN PHYSICAL EDUCATION

The courses listed below are arranged to meet the increasing demand for teachers who are qualified to coach and teach Physical Education. They are open for credit only to students in the High School Teaching Program. These students may elect 15 semester hours from courses in this group. Six semester hours may be elected from the courses listed under Special Methods in Physical Education and 9 semester hours may be elected from the courses listed under Theory and Practice in Physical Education. The courses should be selected with the advice of the Director of Undergraduate Studies in order to meet the needs of the individual.

SPECIAL METHODS IN PHYSICAL EDUCATION

163. **ATHLETIC COACHING IN SECONDARY SCHOOLS.**—Theory and practice in the fundamentals of coaching baseball and track. Prerequisites: courses 1 and 2. Open to juniors and seniors. Sophomores by permission only. 3 s.h. (w)
MESSRS. CHAMBERS AND PARKER

164. **ATHLETIC COACHING IN SECONDARY SCHOOLS.**—Theory and practice in the fundamentals of coaching football and basketball. Prerequisites: courses 1 and 2. Open to juniors and seniors. Sophomores by permission only. 3 s.h. (w)
MR. CAMERON AND STAFF

THEORY AND PRACTICE IN PHYSICAL EDUCATION

65. **HISTORY AND PRINCIPLES OF PHYSICAL EDUCATION.**—A study of the objectives and principles upon which physical education is based. The history of physical education is studied in order to show the changes in objectives, principles, and methods and as an aid in the interpretation of trends. Open to sophomores, juniors, and seniors. 3 s.h. (w)
PROFESSOR AYCOCK

172. RECREATIONAL LEADERSHIP.—Combative contests, games, mass athletics, supervision of community recreation. Open to juniors and seniors. Sophomores by permission only. 3 s.h. (w) ASSISTANT PROFESSOR HARRISON

182. THE ADMINISTRATION OF HEALTH AND PHYSICAL EDUCATION IN SECONDARY SCHOOLS.—Presents the everyday problems that arise in the experience of the teacher of health and physical education. Open to juniors and seniors. 3 s.h. (w) ASSISTANT PROFESSOR HARRISON

190. PROTECTIVE PRACTICES IN PHYSICAL EDUCATION.—A study of safety measures including training and first aid. Open to juniors and seniors. 3 s.h. (w) MR. CHAMBERS AND ASSISTANT PROFESSOR MONTFORT

HEALTH EDUCATION

132. SCHOOL HEALTH PROBLEMS.—A course designed (a) to familiarize the teacher with school health problems such as physical screening, communicable disease prevention and control, healthful school environment; (b) to present methods and materials for health teaching in elementary and secondary schools. 3 s.h. (w) PROFESSOR AYCOCK

WOMAN'S COLLEGE

PROFESSOR GROUT, CHAIRMAN AND DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR EDDY, SUPERVISOR OF FRESHMAN INSTRUCTION IN PHYSICAL EDUCATION; ASSISTANT PROFESSOR UHRHANE, SUPERVISOR OF FRESHMAN INSTRUCTION IN HEALTH EDUCATION; ASSOCIATE PROFESSORS BOOKHOUT AND LEWIS; ASSISTANT PROFESSOR HOLTON; MRS. KEPPEL, MISS SPANGLER, MRS. STOCKTON, MRS. TEAGUE AND MISS WOODYARD

A student must complete four semester hours of physical education in order to fulfill graduation requirements. Ordinarily work must be completed by the end of the sophomore year. Classes meet three times a week or the equivalent thereof.

Each semester is divided into two halves. In general, indoor activities are taught during the two winter half-semester and outdoor activities in the fall and spring.

Every student must take one course (half-semester) in dance and one in swimming if she is unable to pass the swimming test. The remaining work necessary to complete the requirement may be elected from the activities listed in this section.

All students are given a physical and medical examination upon entering and at intervals throughout their college course. Classes in individual physical education and light sports are arranged for those who should not take the more active work.

For information concerning gymnasium costumes see page 189.

SPECIAL FRESHMAN PHYSICAL EDUCATION

At the beginning of the year, after a series of tests has been given, each freshman is registered for the course she most needs, as determined by the test scores. Such courses as motor skills, fundamentals of rhythm, beginning swimming and posture are offered for those who need to improve their skills in these areas. Students whose test scores are satisfactory will enroll in classes with the sophomores.

For freshmen, the winter half of the first semester consists of body mechanics twice a week and social hygiene once a week.

PHYSICAL EDUCATION ACTIVITIES

Individual and dual sports: Archery, badminton, bowling, diving, fencing, golf, life saving, light sports, riding, swimming, tennis, first aid, instructors' life saving and water safety.

Team sports: Basketball, hockey, softball, volleyball.

Rhythmic Activities: Ballroom dance, folk dance, fundamental rhythms, modern dance, square dance, tap dance.

Developmental Activities: Body mechanics, individual physical education, motor skills, posture.

PHYSICAL EDUCATION THEORY

Students preparing to teach physical education and health on a full-time or part-time basis may receive academic credit for all courses listed below. Course 107 is also open to students preparing for social group work and religious education.

Students in the Elementary School Teaching Program must take Physical Education 102 and Health Education 112.

All students may receive credit for Physical Education 105-106, 114, and Health Education 41 and 62.

91. FIRST AID AND SAFETY IN PHYSICAL EDUCATION.—A study of measures which must be taken in the organization and teaching of physical education to insure maximum safety. The Standard Red Cross First Aid Course will be included. 2 s.h. (E) ASSOCIATE PROFESSOR BOOKHOUT

101. HISTORY AND PRINCIPLES OF PHYSICAL EDUCATION.—An historical survey of physical education stressing the relationship between the types of activity developed and the social and political ideals of different nations and periods. A study of the principles upon which physical education is based. Analysis of successful teaching in physical education. 2 s.h. (E) PROFESSOR GROUT

102. THE TEACHING OF PHYSICAL EDUCATION IN ELEMENTARY SCHOOLS.—A study of methods and materials used in teaching physical education to children; includes discussion on the theory of physical education, and practice in teaching elementary school activities. Required of students in the elementary school teaching program. 3 s.h. (E) ASSOCIATE PROFESSOR LEWIS

103. GAMES AND RHYTHMS FOR CHILDREN—Required of students preparing for full-time teaching of physical education. 2 s.h. (E) [Offered every other year alternating with P.E. 107.] ASSOCIATE PROFESSOR LEWIS

105-106. METHODS AND MATERIALS IN RECREATION.—A course intended to familiarize students with recreation activities and methods of organizing groups in these activities. Laboratory work includes practical leadership experience with a recreational club or group in a city organization. General fields covered are: Social Activities, Music Activities, Folk and Square Dancing, Games and Sports, Arts and Crafts, Drama Activities. Open to juniors and seniors without prerequisite. A year course meeting five periods per week throughout the year. Students who have had 102 or 103 may take 106 without 105. 6 s.h. (E)

ASSISTANT PROFESSOR HOLTON

107. THE TEACHING OF RHYTHMIC ACTIVITIES.—Basic theory and practice in the methods of teaching various types of dance activities. 2 s.h. (E) [Offered every other year alternating with P.E. 103.] MRS. STOCKTON

113. MAMMALIAN ANATOMY.—A study of all organ systems with special emphasis on osteology, arthrology and myology. The cat serves as laboratory animal, but constant application is made to man. Prerequisite: Zoology 1 and 2. 4 s.h. (E) ASSOCIATE PROFESSOR BOOKHOUT

114. KINESIOLOGY.—A study of muscle function. Analysis of fundamental movements with emphasis on the development of normal posture and efficient body movement. Required of students taking the major in physical education. Prerequisites: Zoology 1 and 2, and P.E. 113 or Zoology 53. 3 s.h. (E) (Not open to students who have had P.E. 116.) ASSOCIATE PROFESSOR BOOKHOUT

116. KINESIOLOGY.—A study of muscle function. Analysis of human motion as a basis for therapeutic exercise. Prerequisite: Human Anatomy. 3 s.h. (w) (Not open to students who have had P.E. 114.) ASSOCIATE PROFESSOR BOOKHOUT

117. BODY MECHANICS AND INDIVIDUAL PHYSICAL EDUCATION.—A study of the fundamentals of body movement and teaching methods for courses in body mechanics. An analysis of faulty postures for which individual physical education procedures are indicated. 3 s.h. (E) ASSOCIATE PROFESSOR BOOKHOUT

119. ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION.—Curriculum building in physical education. A study of facilities including plans and equipment for gymnasias and playgrounds. Administrative problems of the high-school teacher and public school supervisor. 2 s.h. (E) PROFESSOR GROUT

181-182. METHODS AND MATERIALS IN PHYSICAL EDUCATION.—A course in the theory and practice of teaching and officiating in games and sports. Laboratory hours arranged to provide practice on the field and in the gymnasium. 6 s.h. (E) ASSOCIATE PROFESSOR LEWIS AND STAFF

185. ADVANCED METHODS AND MATERIALS IN PHYSICAL EDUCATION.—A continuation of 181-182. Required of seniors preparing for full-time teaching in physical education. 2 s.h. (E) ASSOCIATE PROFESSOR LEWIS AND STAFF

HEALTH EDUCATION

41. PERSONAL HEALTH.—A presentation of basic health information appropriate to the college age group. Emphasis is placed on the individual's responsibilities and potential contributions toward personal and family health. Either semester. 3 s.h. (E) ASSISTANT PROFESSOR UHRHANE

62. COMMUNITY HEALTH PROBLEMS.—This course includes problems of health in community living such as environmental health hazards and their control, health problems specific to certain groups, and the place and contribution of official and non-official public health agencies. Emphasis is placed on the responsibility of each community member to recognize problems and to work together toward the goal of a mentally, physically and socially healthful community. 3 s.h. (E) ASSISTANT PROFESSOR UHRHANE

112. SCHOOL HEALTH.—This course is designed to meet the needs of the classroom teacher. It deals with the organization and administration of the school health program; with modern principles of education as applied to health education; with basic health problems confronting the schools; and with methods and materials for teaching health education. Primarily designed for students preparing to teach in elementary schools and for physical education majors. Either semester. 3 s.h. (E) ASSISTANT PROFESSOR UHRHANE

REQUIREMENTS FOR TEACHING HEALTH AND PHYSICAL EDUCATION IN PUBLIC SCHOOLS

The following requirements have been set up for students in the Teaching Program who wish to qualify as full-time or part-time teachers of Health and Physical Education. These requirements meet the standards of the North Carolina Department of Public Instruction for certification in Health and Physical Education and of most of the other states represented in the student body. Students preparing to teach in any state are advised to consult the department about specific requirements.

Prerequisites: Physical Education 91 and 101. Zoology 1-2.

Major Requirements: 23 s.h. including Physical Education 103, 107, 114, 117, 119, 181-182, 185, and Health Education 112.

Related Work: 17 to 19 s.h. Of these hours 8 must be in anatomy and physiology (P.E. 113, Mammalian Anatomy and Zoology 151, Principles of Physiology). Of the remaining hours work done in Department of Education leading to teacher certification is acceptable. Courses in Chemistry, Zoology, Sociology, Psychology, Art and Music are recommended.

HISTORY

PROFESSOR CARROLL, CHAIRMAN; ASSOCIATE PROFESSOR PARKER, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR FERGUSON, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS CLYDE, CURTISS, HAMILTON, LANNING, MANCHESTER, AND WOODY; ASSOCIATE PROFESSORS NELSON, ROPP, AND WATSON; ASSISTANT PROFESSORS ACOMB, COLTON, DECONDE, HOLLEY, AND STEVENS; DRs. DURDEN, OLIVER, WHITESIDE, AND YOUNG

The undergraduate courses in history are designed to afford (1) an introduction to the study of history by a consideration of the history of the modern world; (2) a more intensive study of general American history; (3) opportunities for more advanced study of phases of American, English, European, Hispanic-American, Russian, and Far Eastern history.

Course 1-2 or 51-52 or E1-2 or an equivalent is a prerequisite for all other courses; course E1-2 is the prescribed course for students in the College of Engineering; courses 91 and 92 are prerequisite for all 100 and 200 courses in United States history. However, seniors with written permission from the instructor may take advanced American history courses without having had 91 and 92. Sophomores who took only one semester of course 1-2 in the freshman year may be admitted to courses 91, 92, and 99, provided they made a grade of B or above on the semester taken. Sophomores must obtain permission of the instructor in order to be admitted to courses numbered above 100; students who are not fully qualified sophomores will not be admitted to these courses. Courses offered for seniors and graduates are limited to twenty-five students; juniors may not elect them without special permission from the Department and the Executive Committee of the Graduate Faculty.

1, 2. HISTORICAL BACKGROUND OF THE WORLD TODAY.—This course is an introduction to the study of modern history with special reference to the issues in the modern world. Topics selected for emphasis are: the contest between liberty and authority in the modern state; changing economic organization and theory—capitalism and the challenges to it; the problems of peace and war among the states; the changing faiths men live and die by. Beginning about 1500 with the rise of the European dynastic states, the story is pursued in the first semester to approximately 1871, and in the second through the two great world wars. The central theme in both semesters is the expansion of the influence of Western Europe throughout the world, with some attention to the rise of the United States as a world power. 6 s.h. (w & e)

Sophomore and juniors are not admitted to this course.

ASSOCIATE PROFESSORS FERGUSON, PARKER, AND ROPP; ASSISTANT PROFESSORS ACOMB AND COLTON; DRs. DURDEN, OLIVER, WHITESIDE, AND YOUNG

E1-2. THE UNITED STATES IN THE WORLD TODAY.—This course is designed for students in the College of Engineering. Topics treated in the first semester are: the rise of national states in Western Europe and other factors attending the discovery and settlement of the New World; the foundation of American institutions; the establishment of the Federal Republic; the frontier, the westward movement, and contemporary international development; the Civil War; the growth of industry and its influence on society; the Spanish-American War and the emergence of the United States as a world power. In the second semester the emphasis is on the growing interdependence of the Western nations in the twentieth century; their influence throughout the world; the participation of the United States in the World Wars and the resultant problems of today. 6 s.h. (w)

ASSISTANT PROFESSOR HOLLEY; DR. DURDEN

51, 52. HISTORICAL BACKGROUND OF THE WORLD TODAY.—An introductory course for sophomores, juniors, and seniors dealing with the topics indicated in the description of course 1-2. 6 s.h. (w & e)

PROFESSOR CURTISS; ASSOCIATE PROFESSOR ROPP; ASSISTANT PROFESSORS ACOMB AND COLTON; DRs. DURDEN, OLIVER, WHITESIDE, AND YOUNG

91. THE DEVELOPMENT OF AMERICAN DEMOCRACY TO 1865.—This course is a study of trends vital to an understanding of the United States today. The main theme is the development of American democracy. Problems of foreign policy, the growth of capitalism, political practices, social behavior, and conflicting ideals are considered in relation to this main theme. 3 s.h. (W & E)

ASSOCIATE PROFESSOR WATSON; ASSISTANT PROFESSORS
DeCONDE, HOLLEY, AND STEVENS

92. THE DEVELOPMENT OF AMERICAN DEMOCRACY, 1865 TO THE PRESENT.—A continuation of History 91 with emphasis upon the emergence of contemporary problems. 3 s.h. (W & E)

ASSOCIATE PROFESSOR WATSON; ASSISTANT PROFESSORS
DeCONDE, HOLLEY, AND STEVENS

Courses 91 and 92 are intended both to serve as continuation courses in the study of history and to afford the student an opportunity to gain the understanding of the past of the United States essential for intelligent citizenship. These courses are prerequisite for all 100 and 200 courses in United States history, but this prerequisite may be waived for seniors by written permission of the instructor.

99. NAVAL HISTORY AND ELEMENTARY STRATEGY.—After a review of earlier periods, attention is given to the rise of sea-power and its importance in more recent times and to naval actions, especially in the two World Wars. This course is not open to students who have had N.S.101. 3 s.h. (W)

ASSOCIATE PROFESSOR ROPP

105, 106. POLITICAL AND CONSTITUTIONAL HISTORY OF ENGLAND.—The origins and evolution of the principal institutions of the English government, related to their setting in a changing society. 6 s.h. (W)

PROFESSOR HAMILTON

107, 108. SOCIAL AND CULTURAL HISTORY OF ENGLAND.—A study of English history from the fourteenth century to the present time in an effort to arrive at a synthesis of social and political events and thus provide a background for the study of English literature. Emphasis is placed on the ages of Chaucer, Shakespeare, and Milton; the eighteenth and early nineteenth centuries; the reign of Victoria and the twentieth century. 6 s.h. (E)

ASSOCIATE PROFESSOR FERGUSON

Sophomores who made an average grade of B or above on course 1-2 or E1-2 may be admitted to this course.

111, 112. SOCIAL AND INTELLECTUAL HISTORY OF THE U. S.—Evolution of American life and thought to the present; an examination of attitudes and practices in such fields as science, industry, law, learning and religion. Lectures and class discussions of selected readings seek to illuminate the interplay of ideas and social institutions. 6 s.h. (W)

ASSISTANT PROFESSOR HOLLEY

113, 114. AMERICA IN THE TWENTIETH CENTURY.—A historical survey of political, economic, and social problems of twentieth-century United States. Emphasis is placed on reform movements from the Muckrakers through the New Deal, the emergence of the United States as a world power, and conflicting ideas and ideologies. 6 s.h. (W)

ASSOCIATE PROFESSOR WATSON

115, 116. THE AGE OF ABSOLUTE MONARCHY AND THE FRENCH REVOLUTION.—The study in the first semester deals primarily with the political and social institutions of Western Europe in the seventeenth and eighteenth centuries, including such topics as the absolute monarchy in theory and practice, the peasants, the nobles, commercial and industrial classes, the Church. The study in the second semester includes the old regime in France, the French Revolution, and Napoleonic institutions in Western Europe. 6 s.h. (E)

ASSISTANT PROFESSOR ACOMB

[Not offered in 1955-56]

119, 120. SOCIAL MOVEMENTS AND SOCIAL THOUGHT IN MODERN EUROPEAN HISTORY.—A survey of movements for social reform and change from about 1750 to the present. Emphasis is placed on the effects of industrialism, the rise of trade unions, the emergence of working class political parties, and the influence of revolutionary and reformist theories. 6 s.h. (W)

ASSISTANT PROFESSOR COLTON

121, 122. THE FOREIGN RELATIONS OF THE UNITED STATES.—This course is designed to acquaint the student with the historical development of ideas and movements that have shaped American attitudes toward the outside world and to provide an historical introduction to the formal conduct of diplomacy. 6 s.h. (w)

ASSISTANT PROFESSOR DECONDE

127. HISTORY OF LATIN AMERICA THROUGH THE FORMATION OF THE NATIONAL GOVERNMENTS.—3 s.h. (w)

PROFESSOR LANNING

128. INTER-AMERICAN AFFAIRS.—This course treats the relations of the Latin-American states with each other and with the United States with the design of explaining the current significance of Latin America. Chief emphasis is placed upon social problems and movements common to all the republics and upon the role of the United States in Latin-American affairs, including such topics as American intervention; contributions of the United States to Latin-American life in such matters as public health; Pan-Americanism; Pan-Hispanism; foreign penetration and ideologies; the cultural and commercial aspects of the Good Neighbor Policy; Latin-American states in the World War. 3 s.h. (w)

PROFESSOR LANNING

133, 134. THE AGE OF REVOLUTIONS, 1763-1830.—The great revolutions of the closing decades of the eighteenth century and the early decades of the nineteenth. While emphasis is placed on the French Revolution and Napoleon, attention is also given to the revolutions in the New World and to the underlying intellectual movement, the Enlightenment. 6 s.h. (w)

ASSISTANT PROFESSOR ACOMB

135, 136.—EUROPE IN THE TWENTIETH CENTURY.—The work in the first semester deals with the period before 1920, including such topics as international relations at the beginning of the twentieth century, the rise of German naval power, the Triple Alliance and the Triple Entente, the economic interdependence of the world, the Turkish Revolution, the Turco-Italian War and the Balkan wars, the first World War, and its immediate aftermath. In the second semester such topics are treated as the rise of totalitarian states, the disruption of world trade, and the second World War. 6 s.h. (w)

PROFESSOR CARROLL

141, 142. THE FAR EAST FROM COMMODORE PERRY TO CHIANG KAI-SHEK.—Historical interpretations of the role of Eastern Asia in the recent World War with attention to such topics as Western imperialism in China and Japan in the nineteenth century; the rise of Japan as a military and industrial power; the emergence of militant Chinese nationalism; the fusion of the Far Eastern and the European wars into a world conflict; the rise of Chinese communism. 6 s.h. (w)

[Not offered in 1955-56]

PROFESSOR CLYDE

153, 154. THE HISTORY OF THE SOUTH.—A study, beginning in the Colonial period, of the development of the Southern part of the United States with particular attention to its distinctive characteristics and institutions and to their influence in shaping Southern attitudes toward major questions of national policy. 6 s.h. (w)

PROFESSOR WOODY

161, 162. RUSSIA FROM IVAN THE TERRIBLE TO PRESENT TIMES.—Topics treated include the rise of the Russian state and its relations with Poland and Turkey; the agrarian problem and the rise of industry; the Russian Revolution; the political, agricultural, and industrial policies of the Soviet Union; the role of the U.S.S.R. in World War II; and its postwar policies. 6 s.h. (w)

PROFESSOR CURTISS

167, 168. THE BACKGROUND OF MODERN EUROPEAN CIVILIZATION.—The course deals primarily with the intellectual-cultural history of the peoples of Europe and adjacent areas from the period of the earliest written records to the formation of the European states-system (c. 1648). The work aims to develop critical appreciation and maturity of judgment in historical interpretation through the use of original sources. 6 s.h. (E)

ASSOCIATE PROFESSOR NELSON

FOR SENIORS AND GRADUATES

Students may receive credit for either semester of a hyphenated course at the 200-level without taking the other semester if they obtain written permission from the instructor and either the Director of Undergraduate or the Director of Graduate Studies

HISTORY 201-202. SENIOR SEMINAR IN HISTORY.—A course designed to introduce qualified students to advanced methods of historical research and writing and to the appraisal of critical historical issues. Prerequisites: History 1-2 (or 51-52), 91-92, and the consent of the instructor. Open only to seniors. This course, when taken by a history major, would be in addition to the 6 semester hours required in 200-level courses of the History Department. 6 s.h. (w)

ASSOCIATE PROFESSOR PARKER

203-204. THE UNITED STATES, 1850-1900.—The rise of sectionalism, secession, war-time problems of the Union and Confederacy, political and economic adjustments of Reconstruction, the status of the Negro, the New South, problems of capital and labor, the agrarian revolt, political parties and reform, the Spanish-American War. 6 s.h. (w)

PROFESSOR WOODY

205-206. THE UNITED STATES IN THE TWENTIETH CENTURY.—The emergence of the United States as a major power: attention is focused on domestic developments and conflicting theories of expansion of federal power. Emphasis in the first semester is on the Progressive era and the first World War; the second semester is devoted to the twenties and to the Franklin Roosevelt administration. 6 s.h. (w)

ASSOCIATE PROFESSOR WATSON

Not open to students who have had 113-114.

209-210. CONSTITUTIONAL HISTORY OF THE UNITED STATES, 1760 TO THE PRESENT.—A study of the basic problems in forming the Constitution; of its development through the major crises in the history of the United States; of the effects of changing social, cultural, economic, and political conditions on the Constitution. 6 s.h. (w)

ASSISTANT PROFESSOR STEVENS

215-216. THE FOREIGN POLICY AND DIPLOMACY OF THE UNITED STATES.—The work in the first semester, covering the period 1775-1877, deals with such topics as the origin and development of basic foreign policies; isolation from Europe; paramount interests in Latin America, including the Monroe Doctrine; international co-operation in the Far East. The work in the second semester, covering the period since 1877, deals with topics such as the rise of the new "manifest destiny"; beginnings of American imperialism in Latin America and the Far East; the failure of traditional neutrality in the first World War; postwar conflicts between isolation and collective security; involvement in the second World War. 6 s.h. (w)

PROFESSOR CLYDE

[Not offered in 1955-56]

217, 218. EUROPE SINCE 1870.—International relations since the Franco-German War is the chief subject of study in this course; special emphasis is placed upon the underlying economic and political influences. 6 s.h. (w)

PROFESSOR CARROLL

221-222. THE AGE OF THE RENAISSANCE.—The decline of characteristic features of medieval civilization and the rise of modern European institutions with particular attention to intellectual movements from Dante to Erasmus. 6 s.h. (E)

ASSOCIATE PROFESSOR NELSON

225-226. THE AGE OF THE REFORMATION.—A survey of European civilization from 1500 through the Peace of Westphalia. 6 s.h. (E)

[Not offered in 1955-56]

ASSOCIATE PROFESSOR NELSON

227, 228. EUROPE IN THE NINETEENTH CENTURY.—A study, beginning with the career of Napoleon Bonaparte, of the forces and personalities influential in the nineteenth century. Emphasis in the first semester is on the problems of the biographer; in the second, on those of a student of national communities. 6 s.h. (w)

ASSOCIATE PROFESSOR PARKER

231-232. THE HISPANIC COLONIES AND REPUBLICS IN AMERICA.—The development of the Iberian states as colonizing powers, the conquest of America, the Spanish treatment of the Indian, the contest between Spain and other European nations over America, the independence movement, the struggle for stable government, the rise of liberalism with special emphasis upon Mexico from the Revolution of 1910 to the present, and basic inter-American developments. 6 s.h. (w)

PROFESSOR LANNING

233-234. THE INSTITUTIONAL, CULTURAL, AND SOCIAL HISTORY OF HISPANIC AMERICA.—The first semester of this course deals with subject races, the development of mixed breeds, the governmental system, the Church and the Inquisition, and Spanish culture with emphasis upon university subjects. In the second semester the work deals with the political ideas of the wars of independence, revolution and dictatorship, the rise of public education, public health, land reform, and proletarian movements. 6 s.h. (w)

PROFESSOR LANNING

[Not offered in 1955-56]

235, 236. EUROPEAN EXPANSION OVERSEAS (1415-1898). A course dealing primarily with the processes by which European institutions were carried overseas and modified in a new environment. In the first semester the emphasis is on Portuguese, Dutch, French, and English experience in the Far East and the Americas to 1763. In the second semester, attention is paid to the emergence of independent centers of European culture, as in Brazil, and to the revivals of mercantile imperialism of the new German, French, Italian and British empires of the nineteenth century. 6 s.h. (w)

PROFESSOR MANCHESTER

241-242. THE FAR EAST.—The history of the Western impact on Eastern Asia in the nineteenth and twentieth centuries. Emphasis is placed on such matters as commercial and colonial expansion, the opening of China and Japan, the development by the Western Powers and Japan of colonial, imperialistic, and nationalistic interests, and the rise of Communist power in Asia. 6 s.h. (w)

PROFESSOR CLYDE

243-244. THE UNITED STATES AND THE FAR EAST.—An historical analysis of American relations with the peoples of Eastern Asia during the nineteenth and twentieth centuries. 6 s.h. (w)

PROFESSOR CLYDE

[Not offered in 1955-56]

245-246. WAR IN THE MODERN WORLD.—This course is concerned with the relations between warfare and modern political, economic, and social conditions. Special attention is given to the development of British and American military methods and to the events of the American Civil War and the two World Wars. The work in the first semester deals with Clausewitz's theories of warfare and the period from the introduction of gunpowder to 1871; in the second semester there is a more detailed analysis of recent land, sea, and air warfare. 6 s.h. (w)

ASSOCIATE PROFESSOR ROPP

261-262. RUSSIA IN THE TWENTIETH CENTURY.—A study of the background of the Revolution of 1917 followed by an analysis of the history and policies of the Soviet state. 6 s.h. (w)

PROFESSOR CURTISS

263-264. AMERICAN COLONIAL HISTORY AND THE REVOLUTION, 1606-1783.—The growth of institutions and economic life in the English colonies and the American Revolution. 6 s.h. (w)

PROFESSOR WOODY

267. THE TRANSITION FROM MEDIEVAL TO MODERN ENGLAND.—A study of the changes in English society and ideas from the time of Edward III to that of Elizabeth. 3 s.h. (E)

ASSOCIATE PROFESSOR FERGUSON

Not open to students who have had 107-108.

268. ENGLAND FROM ELIZABETH TO ANNE.—Political, social, and intellectual problems from the late sixteenth to the early eighteenth centuries. 3 s.h. (E)

ASSOCIATE PROFESSOR FERGUSON

Not open to students who have had 107-108.

269. BRITISH HISTORY FROM 1714 TO 1867.—The interrelationship of the leadership of such men as Walpole, Chatham, Pitt, and Peel with war, revolution, and social institutions; the rise of the cabinet system; the Industrial Revolution; imperial changes; and reform. 3 s.h. (w)

PROFESSOR HAMILTON

Not open to students who have had 105-106.

270. GREAT BRITAIN AND THE COMMONWEALTH OF NATIONS, 1867 TO THE PRESENT.—Selected illustrations of such developments as the growth of party government and the rise of Labour; the problems of a declining economy, of recruitment of rulers under mass suffrage, and of diplomacy in the wars of the Twentieth Century; the Victorian empire; and the evolution of the dominions into a Commonwealth containing Asiatic peoples. 3 s.h. (w) PROFESSOR HAMILTON
Not open to students who have had 105-106.

DEPARTMENTAL MAJOR

Prerequisites: The Introductory Course in History (1-2 or 51-52).

Major Requirements: Students desiring to take a major in history are required to elect 24 semester hours in the Department, including six semester hours in the senior year from courses in the 200 group. Students desiring to take the more advanced courses in American history should elect courses 91 and 92 in the sophomore or junior year.

COURSES APPROVED FOR RELATED WORK IN HISTORY

The number of courses refer to the description in the 1954-55 catalogue.

Aesthetics

History of Art

History of Music

Economics, but *not* the courses listed under business administration except those in economic geography

Education, 84, 225, 253

English and American Literature, but *not* composition, speech, and drama

German, Greek, Latin, Russian, and the Romance Languages: the literature courses numbered 100 or above that are not primarily conversation or composition courses

Greek 131

Latin 131-132

Philosophy, except 48

Political Science

Psychology, 206 only

Religion courses approved to satisfy the requirement in religion for graduation

Sociology 91, 92, 101, 243, 246 and courses in groups I, II, IV, V.

LATIN AND ROMAN STUDIES

PROFESSOR ROGERS, CHAIRMAN AND DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR ROSE, SUPERVISOR OF FRESHMAN INSTRUCTION; MR. MAHONEY

Students who wish by study in English to make acquaintance with Roman antiquity from either a literary or an historical approach are afforded that opportunity through the courses in translated Latin Literature (111, 112), and Roman History (131, 132).

1-2. COURSE FOR BEGINNERS.—Forms, vocabulary, pronunciation and syntax are emphasized the first semester. They are followed by the reading and translating of Caesar's *Galic War* the second semester. An effort is made to promote rapid development of ability to read easy Latin with satisfaction. 6 s.h. (w)

MR. MAHONEY

3. CICERO'S ORATIONS.—Four orations including the *Manilian Law* and *Archias* are read, and attention is paid to prose style. Prerequisite: Latin 1-2, or equivalent. 3 s.h. (E)

MR. MAHONEY

4. VERGIL'S AENEID.—Selections from Books I-VI, to the amount of four books or more, will be read and translated, due attention being paid to prosody. 3 s.h. (E)

MR. MAHONEY

51. LATIN PROSE.—Selections from prose authors or Cicero's *De Senectute* and *De Amicitia*, or selected books of Livy's history, with special emphasis on developing competence in reading Latin. 3 s.h. (E)

THE STAFF

52. LATIN POETRY.—Selections from the greatest Latin poets, especially Horace's *Odes*. 3 s.h. (E) THE STAFF

57. SIGHT READING IN CLASSICAL LATIN.—One period of an hour per week devoted to practice in the reading of Latin of the classical period; designed to train students to read with facility. 1 s.h. (E) ASSOCIATE PROFESSOR ROSE

58. SIGHT READING IN MEDIAEVAL LATIN.—One period of an hour per week devoted to reading interesting mediaeval prose and poetry. Prerequisite: at least one of the following courses: Latin 3, 4, 51, 52, and 57, or an equivalent. 1 s.h. (E) ASSOCIATE PROFESSOR ROSE

65-66. LATIN PROSE COMPOSITION.—Recommended to students who are pursuing course 3-4, 57, and 51-52, and may at the discretion of the instructor be required of such students. 4 s.h. (E) ASSOCIATE PROFESSOR ROSE

101. TACITUS.—Interesting and historically important selections from the *Annals* or the *Histories* of Tacitus are read, with attention to the literary style and the value of the historical narrative. 3 s.h. (E) PROFESSOR ROGERS

102. JUVENAL.—Juvenal's literary satire forms the basis of the course. 3 s.h. (E) PROFESSOR ROGERS

103. CICERO.—Selections from one of the major philosophical works, with attention to Cicero's philosophical thought and literary style. 3 s.h. (E) PROFESSOR ROGERS OR ASSOCIATE PROFESSOR ROSE

104. LUCRETIUS.—A study of Lucretius as a philosophical thinker and as a poetic artist. 3 s.h. (E) PROFESSOR ROGERS OR ASSOCIATE PROFESSOR ROSE

111, 112. ROMAN LITERATURE IN ENGLISH TRANSLATION.—Selective readings in Latin Literature in English translation with emphasis on the drama, lyric poetry, and the varied contributions of Cicero to literature in the first term, and upon the epic, the satire, and the novel in the second semester. (No language credit.) 6 s.h. (E) ASSOCIATE PROFESSOR ROSE

131, 132. HISTORY OF ROME.—A survey of the history of the Roman State from its beginnings to the death of Justinian; its expansion; development of its constitution and public administration; social, legal, political and economic problems of perennial life and interest; the background and setting of Christianity's rise and growth. (This course carries no language credit. No knowledge of Latin is required for admission.) 6 s.h. (E) PROFESSOR ROGERS

211-212. ROMAN ORATORY.—A reading course in the history and development of Roman oratory, based for the most part on Cicero's *Brutus* and the *Dialogus* of Tacitus. 6 s.h. (E) PROFESSOR ROGERS

DEPARTMENTAL MAJOR

Prerequisite: Latin 1-2, 3-4, or equivalent.

Major Requirements: 24 semester hours which must include courses 51-52, 101-102, 103-104, and 6 semester hours in courses at the 200-level.

Recommended Courses: Latin 65-66, Composition, and 131-132, Roman History.

Related Work: Eighteen hours of related work, elected usually in Greek, Philosophy, Art, Romance Languages, and English. Majors who contemplate graduate work are reminded of the necessity of Greek, German, and French for such study.

MATHEMATICS

PROFESSOR GERGEN, CHAIRMAN; PROFESSOR DRESSSEL, DIRECTOR OF UNDERGRADUATE STUDIES;

ASSOCIATE PROFESSOR HICKSON, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS

CARLITZ, ELLIOTT, ROBERTS AND THOMAS; VISITING ASSISTANT PROFESSOR

(PART-TIME) WYLIE; DRS. GALLIE, GORDON, PELLICCIARO, SHOEN-

FIELD, SWIFT; MESSRS. HODGES, SMYTHE; MISS

WILLCOX AND ASSISTANTS

The following program of courses in Mathematics is planned for 1955-56.

Fall: 1, 5, 6, 50, 51, 52, 53, 123, 131, 139, 227, 253, 285, 291.

Spring: 1, 5, 6, 16, 50, 51, 52, 53, 124, 131, 140, 160, 228, 254, 286, 292.

1. **INTERMEDIATE ALGEBRA.**—Elementary topics, factoring, fractions, linear equations in one, two and three unknowns, functions and graphs, exponents and radicals, elements of quadratic equations. Prerequisite: one unit in algebra and one unit in geometry. 3 s.h. (w & e) **STAFF**

5. **COLLEGE ALGEBRA.**—Advanced topics in quadratic equations, systems involving quadratics, variation, binomial theorem, progressions, inequalities, theory of equations, determinants, partial fractions, probability. This course and Mathematics 6 may be taken concurrently. Prerequisite: Mathematics 1, or one and one-half units in algebra and one unit in geometry. 3 s.h. (w & e) **STAFF**

6. **PLANE TRIGONOMETRY.**—Logarithms, right and oblique triangles, radian measure, graphs of trigonometric functions, inverse trigonometric functions, trigonometric identities and equations. Prerequisite: must be preceded or accompanied by Mathematics 5. 3 s.h. (w & e) **STAFF**

16. **MATHEMATICS OF INVESTMENT.**—Simple and compound interest, annuities certain, amortization, sinking funds, depreciation, evaluation of bonds, life insurance. Prerequisite: Mathematics 5. 3 s.h. (w) **STAFF**

50. **PLANE ANALYTIC GEOMETRY.**—Rectangular and polar coordinates, loci, straight lines, conic sections. This course and Mathematics 51 may be taken concurrently. Prerequisite: Mathematics 5 and 6. 3 s.h. (w) **STAFF**

51. **CALCULUS I.**—Differentiation of elementary functions, curve tracing, maxima and minima, motion, curvature, indeterminate forms. Prerequisite: must be preceded or accompanied by Mathematics 50. 3 s.h. (w) **STAFF**

52. **CALCULUS II.**—Integration of elementary functions, areas, solids of revolution, length of arc, surfaces of revolution, centroids, moments of inertia, pressure. Prerequisite: Mathematics 51. 3 s.h. (w) **STAFF**

53. **CALCULUS III.**—Introduction to solid analytic geometry, partial differentiation, multiple integrals, series, introduction to differential equations. Prerequisite: Mathematics 52. 3 s.h. (w) **STAFF**

123. **HIGHER ALGEBRA.**—The number system, mathematical induction, inequalities, series, recurring series, continued fractions, recurring continued fractions, summation of series, probability. Offered in alternate years. Prerequisite: Mathematics 53. 3 s.h. (w) **ASSOCIATE PROFESSOR HICKSON**

124. **STATISTICS.**—Averages, moments, dispersion, skewness, kurtosis, correlation, types of distributions, curve fitting, graduation of data to type curves, sampling theory. Offered in alternate years. Prerequisite: Mathematics 53. 3 s.h. (w) **ASSOCIATE PROFESSOR HICKSON**

125. **ELEMENTARY THEORY OF EQUATIONS.**—Permutations, determinants, matrices, linear systems, polynomials and their roots, constructibility, resultants, discriminants, simultaneous equations. Offered in alternate years. Prerequisite: Mathematics 53. 3 s.h. (w) **PROFESSOR THOMAS**

131. **ELEMENTARY DIFFERENTIAL EQUATIONS.**—Solution of differential equations of elementary types; formation and integration of equations arising in applications. Prerequisite: Mathematics 52. 3 s.h. (w) **STAFF**

139-140. **ADVANCED CALCULUS.**—Multiple integrals, series, Taylor's theorem, partial differentiation, improper integrals, line integrals, Green's theorem, complex numbers. Prerequisite: Mathematics 53. 6 s.h. (w) **PROFESSOR ELLIOTT**

158. **FINITE DIFFERENCES.**—Operators, interpolation formulas for equal and unequal intervals, inverse interpolation, summation, differential and difference operators, approximate integration. Offered in alternate years. Prerequisite: Mathematics 52. 3 s.h. (w) **ASSOCIATE PROFESSOR HICKSON**

160. **ELEMENTARY SOLID ANALYTIC GEOMETRY.**—Planes, straight lines, quadric surfaces. Offered in alternate years. Prerequisite: Mathematics 53. 3 s.h. **STAFF**

175. **PROBABILITY.**—Permutations and combinations, total and compound probability, Bayes' theorem, Bernoulli's theorem, mathematical expectation, applications. Offered in alternate years. Prerequisite: Mathematics 52. 3 s.h. (w)

ASSISTANT PROFESSOR HICKSON

FOR SENIORS AND GRADUATES

227-228. **THEORY OF NUMBERS.**—Congruences, arithmetic functions, compound moduli, quadratic reciprocity, Gauss sums, quadratic forms, sums of squares. Prerequisite: Mathematics 53. 6 s.h. (w)

PROFESSOR CARLITZ

229-230. **ALGEBRAIC NUMBERS.**—Ideals, unique factorization, divisors of the discriminant, determination of the class number. Prerequisite: Mathematics 125. 6 s.h. (w)

PROFESSOR CARLITZ

235-236. **ABSTRACT ALGEBRA.**—Groups, fields, rings, matrices, quadratic and bilinear forms, general Galois theory, hypercomplex systems. Prerequisite: Mathematics 53. 6 s.h. (w)

PROFESSOR CARLITZ

247-248. **ARITHMETIC OF POLYNOMIALS.**—Field theory, detailed study of finite fields, special polynomials and functions, valuation theory, the zeta function. Prerequisite: Mathematics 235, or consent of the instructor. 6 s.h. (w)

PROFESSOR CARLITZ

253-254. **DIFFERENTIAL GEOMETRY.**—Curves and surfaces in three dimensional Euclidean Space, applicability, differential parameters, Riemannian geometry of n -space. Prerequisite: Mathematics 53. 6 s.h. (w)

PROFESSOR THOMAS

255-256. **PROJECTIVE GEOMETRY.**—Postulational, synthetic treatment centering around Desargues' theorem and the principle of projectivity. Conics, coordinates, order, continuity, metric properties. Prerequisite: Mathematics 53. 6 s.h. (w)

PROFESSOR THOMAS

271-272. **INTRODUCTORY TOPOLOGY.**—Topological properties of Euclidean spaces, set-theoretic and combinatorial methods. Prerequisite: Mathematics 53. 6 s.h. (w)

PROFESSOR ROBERTS

285. **MATHEMATICAL ANALYSIS FOR CHEMISTS AND PHYSICISTS.**—Vectors, line and surface integrals, tensors, complex variables, differential and integral equations. Prerequisite: Mathematics 53. 3 s.h. (w)

PROFESSOR DRESSEL

286. **MATHEMATICAL ANALYSIS FOR CHEMISTS AND PHYSICISTS.**—Wave equation, Fourier series, heat equation, telegraphic equations, Legendre polynomials, Bessel functions, Schrödinger's equation. Prerequisite: Mathematics 53. 3 s.h. (w)

PROFESSOR DRESSEL

291-292. **THEORY OF FUNCTIONS.**—Limits, implicit functions, power series, double series, Cauchy's theorem and its applications, residues, Riemann surfaces, conformal mapping. Prerequisite: Mathematics 53. 6 s.h. (w)

PROFESSOR GERGEN

DEPARTMENTAL MAJOR

For the A.B. degree:

Prerequisite: Mathematics 5 and 6.

Major and Related Work: 42 semester hours.

Major Requirements: Mathematics 50, 51, 52, 53 and 12 semester hours in courses in mathematics numbered above 100.

Related Work: 18-24 semester hours of course work, ordinarily in the following departments: chemistry, economics and business administration, philosophy, physics.

For the B.S. degree:

Prerequisite: Mathematics 5 and 6.

Major and Related Work: 48 semester hours.

Major Requirements: Mathematics 50, 51, 52, 53 and 12 semester hours in courses in mathematics numbered above 100.

Related Work: 14-24 semester hours of course work in the natural sciences.

MEDICAL SCIENCE

These courses in medical science have been approved by the Faculty Council as appropriate for the Bachelor's degree.

103. HUMAN PHYSIOLOGY.—A course in human physiology in which the functions of all organ systems are covered. Special emphasis is given to the study of neuro-muscular and cardiovascular functions. Lectures, laboratory experiments and demonstrations, and conferences. Limited to sixteen students. Primarily for physical therapy students. Prerequisites: Chemistry 1-2 and Zoology 1-2. 6 s.h.
ASSOCIATE PROFESSOR MCCREA AND STAFF

109. ANATOMY RELATED TO MOTION.—A course in human anatomy in which the dissection is restricted to the muscles, bone, and joints and to the circulatory and nervous systems as they are related to movement. Lectures and laboratory. Prerequisite: Zoology 1-2. 8 s.h.
PROFESSOR MARKEE AND STAFF

NAVAL SCIENCE

PROFESSOR FORD, CAPTAIN, U. S. NAVY, CHAIRMAN; ASSOCIATE PROFESSOR CLARKE, LIEUTENANT COLONEL, U. S. MARINE CORPS, DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR LAWSON, LIEUTENANT COMMANDER, U. S. NAVY, SUPERVISOR OF FRESHMAN INSTRUCTION; ASSISTANT PROFESSORS DAWSON, LIEUTENANT COMMANDER, U. S. NAVY, IVES AND PATTERSON, LIEUTENANTS, U. S. NAVY; AND ASSISTANT PROFESSOR MORRISON, MAJOR, U. S. MARINE CORPS

Standardized titles and numbers for courses are established by the Bureau of Naval Personnel for use at the 52 NROTC institutions. The first digit indicates the year of the course; the second digit indicates whether semester or quarter (0 for semester, 1 for quarter); the third digit indicates the semester or quarter of school year in which offered. Specialized courses for Marine Corps officer candidates are indicated by the letter "M" after the number, and substitute for the basic course of the same number.

NS 101. NAVAL HISTORY.—History of navy regulations, naval customs and courtesies considered basic to further study of Naval Science; naval history, relating the rise and fall of sea power to other aspects of world history as a basis for understanding the role of navies in the world today. 3 s.h. (w)

LIEUTENANT COLONEL CLARKE,
LIEUTENANT COMMANDER LAWSON

NS 102. NAVAL ORIENTATION.—Introduction to carrier, air, surface, under-sea, and amphibious warfare; basic types, characteristics, capabilities, and limitations of naval vessels; deck seamanship; naval formations and maneuvers. 3 s.h. (w)

LIEUTENANT COLONEL CLARKE,
LIEUTENANT COMMANDER LAWSON

NS 201. NAVAL WEAPONS.—Evolution of naval ordnance; types and properties of explosives; principles in design and assembly of guns and ammunition; gun assembly types and operation, capabilities and limitations of past, present and future weapons systems; principles and use of radar and radar systems; elements and principles in the problem of control of naval weapons against air and surface targets. 3 s.h. (w)

LIEUTENANT PATTERSON

NS 202. NAVAL WEAPONS.—The elements of representative gun fire control systems; principles in the mechanical and electronic solution of fire control problems; principles in the alignment and maintenance of gun batteries; organization and functions of the combat information center; naval gunfire support of amphibious operations; principles and use of anti-submarine warfare devices and systems; principles of torpedoes, mines, rockets, and guided missiles. 3 s.h. (w)

LIEUTENANT PATTERSON

NS 301. NAVAL ENGINEERING.—Principles of steam engineering as related to naval installations for main propulsion and auxiliaries; future trends in naval engineering plants, ship stability and buoyancy in the practice of ship design and damage control; a general understanding of Diesel Engines. 3 s.h. (w)

LIEUTENANT IVES

NS 301M. EVOLUTION OF THE ART OF WAR.—A survey of the evolution of weapons, strategy, tactics and material; illustration of the classic principles of war by a study of selected battles and campaigns; a summary of the development of U. S. military and foreign policy. 3 s.h. (w) MAJOR MORRISON

For Marine Corps Candidates.

NS 302. NAVIGATION.—Magnetic and gyro compasses; principles of chart construction; dead reckoning; piloting; nautical astronomy including a study of the actual and apparent motion of the earth, celestial coordinates, time systems, the astronomical triangle, identification of stars and planets; solutions of observations for lines of position; complete day's work in practical navigation. 3 s.h. (w)

CAPTAIN FORD; LIEUTENANT COMMANDER DAWSON

NS 302M. MODERN BASIC STRATEGY AND TACTICS.—Modern tactical principles and techniques, especially on the small unit level, illustrated by contemporary historical examples; development of a general understanding of strategy. 3 s.h. (w) MAJOR MORRISON

For Marine Corps Candidates.

NS 401. NAVAL OPERATIONS.—Tactics and operations including concepts of combined fleet, force, and group operations; watchstanding duties afloat; relative motion and its application to tactical maneuvering; electronic navigation; communications from ship to ship through fleet levels; Rules of the Nautical Road. 3 s.h. (w)

CAPTAIN FORD; LIEUTENANT COMMANDER DAWSON

NS 401M. AMPHIBIOUS WARFARE.—History and development of amphibious operations and organization; analyses of amphibious operations of World War II and of the Korean action. 3 s.h. (w) MAJOR MORRISON

For Marine Corps Candidates.

NS 402. NAVAL ADMINISTRATION.—Structure of the Navy, organization and administrative procedures; principles of personnel management; elements of military law; leadership and personal relations. 3 s.h. (w) LIEUTENANT IVES

NS 402M. AMPHIBIOUS WARFARE, PART II.—Further study of selected amphibious operations; Uniform Code of Military Justice; leadership. 3 s.h. (w)

For Marine Corps Candidates.

MAJOR MORRISON

REQUIREMENTS FOR COMMISSION

Naval Science: 24 semester hours.

Other university courses: Completion of course requirements to qualify for a baccalaureate degree, or higher. These courses must include Math 6 (unless math through trigonometry successfully completed in secondary school); Physics 1, 2 or 51, 52, to be completed by the end of the sophomore year (mandatory for Regular students only). Physical training must be taken in accordance with University requirements and each student must include such instruction in swimming as to qualify him as a first class swimmer.

Summer training: Regular NROTC students must participate in three periods of training on board ship or at naval shore stations. Contract students are required to take one training cruise of about six weeks' duration, normally between the junior and senior years.

PHILOSOPHY

PROFESSOR NEGLEY, CHAIRMAN; ASSISTANT PROFESSOR BUCK, DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR PEACH, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS BAYLIS AND PATTERSON; ASSISTANT PROFESSORS CLARK AND WELSH

The undergraduate program in the Department of Philosophy is designed to acquaint students with the content and the structure of philosophical theory in various areas. Discussion is encouraged so that the student can actively engage in the philosophical examination of problems.

Course offerings fall into two general categories: the systematic and the historical. In a systematic treatment, the organization of a course is primarily in terms of the

problems presented by the subject-matter of that course, as in logic, ethics, metaphysics, etc. In historical courses, attention is directed more to the order of development in the thought of a particular philosopher (Plato, Aristotle, Kant, etc.), or in a historical period. In all courses, reading of the works of philosophers will acquaint the student with the important and influential contributions to the definition and solution of philosophical issues.

The problems raised in philosophy in respect to the various fields of the arts and sciences involve questions which are not normally given attention in those particular disciplines. In the consideration of such problems, therefore, it is expected that the student will acquire some understanding and perspective of the major areas of man's intellectual endeavor. In this sense, philosophical comprehension is an essential part of a student's learning and education.

The following courses fulfill minimum uniform requirements:

Literature, Art, Music, and Philosophy (six hours required)—Philosophy 49, 91, 93, 94, 97, 98, 116, 117.

Natural Sciences (eleven hours required)—Three of the eleven hours may be fulfilled by Philosophy 48, 103, or 104.

All courses numbered below 200 will be offered every year. The following senior-graduate courses will be offered in 1955-56: 201, 205, 211, 219, 220, 227, 228, 232, 241, 250.

48. LOGIC.—A study of the conditions of effective thinking and clear communication, and of typical sources of fallacies. Examination of the basic principles of *deductive* reasoning (making explicit the implications of statements) and of *inductive* reasoning (the formulation and testing of hypotheses on the basis of experience and experiment). Emphasis on practical illustrations and applications. 3 s.h. (E & W)
ASSISTANT PROFESSORS BUCK, CLARK, AND WELSH

49. ETHICS.—An introductory consideration of basic ethical concepts and principles as developed in European and American thought and culture. 3 s.h. (E & W)
PROFESSORS BAYLIS AND NEGLEY; ASSISTANT PROFESSORS BUCK AND WELSH

91. INTRODUCTION TO PHILOSOPHY.—A systematic and historical examination of the major problems of knowledge, morals, and metaphysics. 3 s.h. (E & W)
STAFF

93. HISTORY OF PHILOSOPHY: ANCIENT AND MEDIEVAL.—A study of the major philosophers of the period with special reference to the continuity of their thought. 3 s.h. (E & W)
PROFESSOR PATTERSON; ASSISTANT PROFESSOR BUCK

94. HISTORY OF PHILOSOPHY: MODERN.—A study of the major philosophers of the period with special reference to the continuity of their thought. 3 s.h. (E & W)
ASSISTANT PROFESSOR PEACH

97. POLITICAL AND SOCIAL PHILOSOPHY.—Discussion of the fundamental principles of political and social organization, with particular attention to democratic philosophy, corporate theory, and Marxist ideology. 3 s.h. (E)
PROFESSOR NEGLEY

98. SOCIAL IDEALS AND UTOPIAS.—Reading of selected Utopias; analysis of the value-structures and political principles of these ideal societies. 3 s.h. (E)
PROFESSOR NEGLEY

101. PHILOSOPHY OF RELIGION.—A critical examination of the facts of religious experience and their bearing upon metaphysics. 3 s.h. (E)
PROFESSOR PATTERSON

103. SYMBOLIC LOGIC.—Detailed analysis of deduction and of deductive systems. 3 s.h. (E)
ASSISTANT PROFESSOR CLARK

104. PHILOSOPHY OF SCIENCE.—The principal philosophical and methodological problems in contemporary science. 3 s.h. (E)
ASSISTANT PROFESSOR CLARK

109. INTRODUCTION TO THE PHILOSOPHY OF LANGUAGE.—Examination and discussion of such problems as the origin of language, sign-using behavior, definition, the nature of interpretation, and special uses of language: scientific, poetic, persuasive. 3 s.h. (W)
ASSISTANT PROFESSOR WELSH

116. THE DEVELOPMENT OF PHILOSOPHY IN AMERICA.—A historical and critical survey of the leading philosophical movements from Colonial times to the present. 3 s.h. (E) PROFESSOR NEGLEY

117. HISTORY OF ETHICS.—A survey and analysis of the ethical systems of the great philosophers. Readings in original sources. 3 s.h. (E)

ASSISTANT PROFESSOR WELSH

FOR SENIORS AND GRADUATES

202. PHILOSOPHY OF ART.—A study of some fundamental issues in aesthetics, with particular reference to the fields of literature, music, and painting. Problems discussed include: the nature and purposes of the arts; meaning in the arts; art and morality; the role of standards in art criticism; aesthetic judgment; interpretation and evaluation. 3 s.h. (E)

ASSISTANT PROFESSOR WELSH

Offered every year.

203. CONTEMPORARY ETHICAL THEORIES.—Critical discussion and evaluation of the ethical views of twentieth century British and American philosophers. 3 s.h. (E)

PROFESSOR BAYLIS

Offered in 1956-7 and in alternate years.

205. EPISTEMOLOGY.—A critical and evaluative study of rival theories of meaning, truth and knowledge, of the nature and grounds of a priori knowledge, and of the nature of empirical knowledge and the types of empirical evidence. 3 s.h. (E)

PROFESSOR BAYLIS

Offered every year.

208. POLITICAL PHILOSOPHY.—Analysis of the structure of social organization with particular reference to the nature of political and legal institutions. 3 s.h. (E)

PROFESSOR NEGLEY

Offered in 1956-7 and in alternate years.

210. PHILOSOPHY OF RELIGION.—A critical and constructive study of the nature of religion, of its various forms and manifestations, and of its functions in human life. 3 s.h. (E)

PROFESSOR PATTERSON

Offered in 1956-7.

211. PLATO.—An examination of Plato's views with respect to knowledge, reality, and the state. 3 s.h. (E)

PROFESSOR PATTERSON

Offered in 1955-6 and in alternate years.

217. ARISTOTLE.—An analysis of Aristotle's views with respect to knowledge, reality, and the state. 3 s.h. (E)

PROFESSOR PATTERSON

Offered in 1956-7 and in alternate years.

218. MEDIEVAL PHILOSOPHY.—A study of the philosophy of the Middle Ages with special attention to selected texts from the works of Christian, Jewish and Arabian philosophers. 3 s.h. (E)

PROFESSOR PATTERSON

Offered in 1956-7 and in alternate years.

219. KANT.—Reading and discussion of his philosophy, with some attention to historical continuity. 3 s.h. (E)

PROFESSOR NEGLEY

Offered in 1955-6 and in alternate years.

220. THE POST-KANTIANS.—The development from Kant through Fichte and Schelling to Hegel; emphasis on the Hegelian dialectic and its influence on political and legal philosophy. 3 s.h. (E)

PROFESSOR NEGLEY

Offered in 1955-6 and in alternate years.

222. REASON AND COMMON SENSE IN 17TH AND 18TH CENTURY BRITISH THOUGHT.—Studies in the theories of reason and sentiment following Hobbes, and the development of opposition among rational, common sense and empirical theories of knowledge and conduct. Readings in Cumberland, Shaftesbury, Hutcheson, Reid and others. 3 s.h. (E)

ASSISTANT PROFESSOR PEACH

Offered in 1956-7 and in alternate years.

223. CONTEMPORARY PHILOSOPHY: IDEALISM.—Examination and analysis of the idealist position in recent and contemporary philosophy, with special attention to the works of F. H. Bradley and the British Idealists. 3 s.h. (E)

Offered in 1956-7 and in alternate years.

PROFESSOR NEGLEY

224. CONTEMPORARY PHILOSOPHY: REALISM.—A critical analysis, comparison and evaluation of the several varieties of recent realistic theories, presentative and representative. 3 s.h. (E) PROFESSOR BAYLIS

Offered in 1956-7 and in alternate years.

225. BRITISH EMPIRICISM.—A critical study of the writings of Locke, Berkely, and Hume, with special emphasis on problems in the theory of knowledge. 3 s.h. (E)

Offered in 1956-7 and in alternate years.

227. CONTINENTAL RATIONALISM.—A critical study of the writings of Descartes, Spinoza, and Leibnitz, with special emphasis on problems in the theory of knowledge and metaphysics. 3 s.h. (E) ASSISTANT PROFESSOR PEACH

Offered in 1955-6.

228. RECENT AND CONTEMPORARY PHILOSOPHY.—A critical study of outstanding philosophical views from Schopenhauer to the present. 3 s.h. (E)

Offered in 1955-6 and in alternate years. ASSISTANT PROFESSOR PEACH

232. SPECIAL PROBLEMS IN THE PHILOSOPHY OF SCIENCE.—Selected topics concerning the methods of the sciences and the philosophy of science. 3 s.h. (E) ASSISTANT PROFESSOR CLARK

Offered every year.

236. ORIENTAL PHILOSOPHY.—A study of the genesis of philosophical ideas in the Upanishads and the Bhagavadgita, and of the developments of the orthodox systems and of the philosophies of the Jains and Buddhists. 3 s.h. (E)

Offered in 1957-8 and every third year. PROFESSOR PATTERSON

241. LOGIC.—Fundamental Problems of Logic. 3 s.h. (E)

Offered every year.

ASSISTANT PROFESSOR CLARK

250. PHILOSOPHICAL ANALYSIS.—A critical study of recent and contemporary essays in philosophical analysis, and an evaluation of the nature, methods, and results of this movement. 3 s.h. (E) PROFESSOR BAYLIS AND ASSISTANT

Offered in 1955-6 and in alternate years.

PROFESSOR BUCK

252. METAPHYSICS.—A critical and evaluative study of rival metaphysical theories and their bases. Analysis of the fundamental metaphysical categories and of metaphysical methods. 3 s.h. (E) PROFESSOR BAYLIS

DEPARTMENTAL MAJOR

Philosophy 48 (Logic) is recommended for all those intending to major in philosophy.

Major Requirements: Twenty-four semester hours in philosophy in courses numbered above 50 including the following:

Philosophy 93 and 94.

Philosophy 117, 203, or 208.

6 semester hours in Philosophy senior-graduate courses.

Related work: Six hours minimum in each of two departments approved by the Philosophy adviser. Courses may not be those primarily open to freshmen. There is no restriction in principle as to departments in which related work may be taken, and the approval of the Philosophy adviser is required only to insure some coherence in the program of major and related work as a whole.

PHYSICS

PROFESSOR NIELSEN, CHAIRMAN; ASSISTANT PROFESSOR LEWIS, DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSOR CARPENTER, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS GORDY, NEWSON, NORDHEIM, AND SPONER; ASSOCIATE PROFESSORS FAIRBANK AND GREULING; ASSISTANT PROFESSORS BLOCK AND WILLIAMSON;

MR. FAGOT; AND ASSISTANTS

A student wishing to major in physics should arrange to complete the necessary mathematics as soon as possible.

1-2. INTRODUCTORY PHYSICS.—This course traces historically and experimentally the development of the important principles of physics. This course is open to freshmen, sophomores and juniors and meets the general science requirement. Three hours of recitation and one two-hour laboratory each week. 8 s.h. (w)

PROFESSOR CARPENTER AND STAFF; AND ASSISTANTS

51-52. GENERAL PHYSICS.—This course treats the basic principles of general physics in a more quantitative manner than Physics 1-2. It is designed for sophomores and juniors, and meets in a thorough way the physics requirement for entrance into the study of either medicine or engineering, and is well suited for the general science student. A limited number of freshmen who present physics for entrance and who are taking the required mathematics concurrently may be admitted by permission of the instructor. This course is not open for credit for students who have completed Physics 1-2. Four lecture-recitations and one three-hour laboratory period each week. Prerequisites: Mathematics 5-6 or equivalent (Mathematics 6 may be taken concurrently). 10 s.h. (w)

PROFESSOR CARPENTER AND STAFF; AND ASSISTANTS

125. INTERMEDIATE PHYSICS—MECHANICS.—The course covers in a thorough manner the elements of mechanics. Three recitations per week. Prerequisites: Physics 1-2 or 51-52 or equivalent, and a course in differential and integral calculus which may be taken concurrently. 3 s.h. (w)

PROFESSOR NIELSEN

126. INTERMEDIATE PHYSICS—ELECTRICITY.—The elements of electricity and magnetism. Three lectures and one three-hour laboratory per week. Prerequisites: Physics 125 or equivalent work approved by the instructor, and differential and integral calculus. Integral calculus may be taken concurrently. 4 s.h. (w)

ASSISTANT PROFESSOR LEWIS

175. INTERMEDIATE PHYSICS—OPTICS.—The elements of geometrical and physical optics. Three recitations and one three-hour laboratory per week. Prerequisites: Physics 125 and 126 or equivalent work approved by instructor, and differential and integral calculus. 4 s.h. (w)

PROFESSOR SPONER

176. INTERMEDIATE PHYSICS—THERMODYNAMICS AND KINETIC THEORY.—The elements of thermodynamics and kinetic theory and elementary statistical mechanics. Three recitations per week. Prerequisites: Physics 125 or equivalent work approved by the instructor, and differential and integral calculus. 3 s.h. (w)

ASSOCIATE PROFESSOR FAIRBANK

A course in general college physics, Physics 125 and 126 or equivalent validated by examination, and a course in differential and integral calculus are prerequisites to all courses numbered 200 and above.

201-202. MECHANICS.—The fundamental principles of statics and the dynamics of particles and rigid bodies. Three recitations each week. 6 s.h. (w)

ASSISTANT PROFESSOR WILLIAMSON AND PROFESSOR NORDHEIM

213-214. CONTEMPORARY PHYSICS.—A course which covers the fundamental concepts and the experimental basis of modern physics. Three lectures each week. 6 s.h. (w)

ASSISTANT PROFESSOR LEWIS

217-218. ADVANCED PHYSICS LABORATORY.—Measurements involving the fields of mechanics, electricity, magnetism, heat, sound, optics and modern physics. 2-6 s.h. (w)

THE STAFF

219. ELECTRICITY AND MAGNETISM.—Fundamentals of electricity and magnetism. Motion of charged particles in fields and the physics of electron tubes. Direct and alternating current circuits and networks. Electromagnetic waves. 3 s.h. (w)

ASSISTANT PROFESSOR LEWIS

220. ELECTRON TUBE CIRCUITS.—Linear circuit analysis, rectifiers, filters, linear amplifiers, feedback, noise, power amplifiers, oscillators, modulation, relaxation oscillators. 4 s.h. (w)

ASSISTANT PROFESSOR WILLIAMSON

225-226. ELEMENTARY INVESTIGATIONS.—The aim of this course is to provide training in the laboratory and library methods of physical research. Properly qualified students may conduct elementary investigations under the supervision of a member of the staff. 3-6 s.h. (w) THE STAFF

DEPARTMENTAL MAJOR

A. For the A.B. degree:

Prerequisites: Physics 1-2 or 51-52 or equivalent, and Mathematics 5-6.

Major Requirements: Eighteen to 24 semester hours in physics including Physics 125, 126, 175 and 176 or equivalent.

Related Work: Eighteen to 24 semester hours from the following courses: Mathematics 51, 52, 53 and 131, and Chemistry 1-2.

B. For the B.S. degree:

Prerequisites: Physics 1-2 or 51-52 or equivalent, and Mathematics 5-6 or equivalent.

Major Requirements: Twenty-four to 34 semester hours in physics including Physics 125, 126, 175 and 176 or equivalent.

Related Work: Fourteen to 24 semester hours from the following courses: Mathematics 51, 52, 53 and 131, and Chemistry 1-2.

POLITICAL SCIENCE

PROFESSOR RANKIN, CHAIRMAN; PROFESSOR CONNERY, DIRECTOR OF UNDERGRADUATE STUDIES;
 PROFESSORS COLE, HALLOWELL, VON BECKERATH AND WILSON; VISITING PROFESSOR
 REDFORD; LECTURER ELLIS; ASSOCIATE PROFESSORS SIMPSON AND BRAIBANTI;
 ASSISTANT PROFESSORS CHEEK AND HANSON; DR. HALL;
 DR. SINDLER; MR. ULMER

The general objective of the Department of Political Science is to acquaint students with the theory and practice of government and politics at the local, state, national and international levels. While primary attention is focused upon the American political and administrative system, emphasis is also placed upon a comparative study of the political institutions and movements of thought peculiar to the nations of Europe, Latin America and the Far East. The student's attention is also directed to the problems encountered in international organization, politics and law. The development of political theories from Plato to the present day is an essential part of the department's course offerings. Methods of study include the descriptive, the historical, the legal, the comparative and the philosophical.

Directing its effort to an intelligent understanding of the contemporary world and of the responsibilities which are laid upon citizens of a democracy, the Department of Political Science shares the general objectives of a liberal arts education. While the department does not aim at vocational education, the knowledge it seeks to impart should be useful to anyone contemplating a career in the government service or politics.

Students intending to major in the department should take Political Science 11-12, 61-62, or 63-64. No student may take more than one of these three courses for credit. Ordinarily one of them must be taken before proceeding to more advanced work in the department. This rule may be waived with the consent of the instructor giving the advanced course.

The advanced courses are divided into three major groups but no sequence of courses beyond the introductory course is prescribed. The student would be well advised, however, to select some courses from each group.

The Senior Seminars are designed to provide an opportunity for majors in the department to pursue independent study and research.

INTRODUCTORY COURSES

11-12. THE AMERICAN SYSTEM OF GOVERNMENT.—An introductory study of the principles and operation of the American government in the light of the present world position of the United States. (Only open to Freshmen.) 6 s.h. (E & W) DR. HALL; DR. SINDLER

[Students who complete 11 in the spring semester should thereafter take course 62 instead of 12.]

61-62. AMERICAN GOVERNMENT AND POLITICS.—A study of the American constitutional and political system. Among other topics attention is given to the development of the constitution, federal-state relations, political parties and the organization and functions of the national, state and local governments. 6 s.h.
(W & E) PROFESSOR CONNERY; ASSOCIATE PROFESSOR SIMPSON; ASSISTANT PROFESSOR CHEEK; DR. HALL; DR. SINDLER; MR. ULMER

[Not open to freshmen or to students who have had courses 11-12 or 63-64.]

63-64. MODERN CONSTITUTIONAL GOVERNMENT.—Principles and institutions of modern constitutional government, the first semester being devoted to American government, the second to government outside the United States. 6 s.h.
(W & E) DR. ELLIS

[Not open to Freshmen or to students who have had courses 11-12 or 61-62.]

POLITICAL THEORY AND COMPARATIVE GOVERNMENT

123. INTRODUCTION TO POLITICAL PHILOSOPHY.—A course devoted to the reading and discussion of selected political classics including Plato's *Republic*, Aristotle's *Ethics* and *Politics* and other works as time permits. 3 s.h. (w)
PROFESSOR HALLOWELL

136. MAJOR EUROPEAN GOVERNMENTS.—A general introductory survey of the governments of Great Britain, France, Germany, Italy, and the Soviet Union. Special attention is given to constitutional developments, the organization and ideologies of political parties, and current political problems. 3 s.h. (w)
PROFESSOR COLE

151. GOVERNMENTS AND POLITICS OF MEXICO AND THE CARIBBEAN AREA.—A study of their contemporary governments, political problems and international relations. 3 s.h. (w)
DR. ELLIS

152. THE GOVERNMENTS AND POLITICS OF SOUTH AMERICA.—The constitutional development, governmental organization, inter-American co-operation and political problems of the principal South American states. 3 s.h. (w)
DR. ELLIS

180. JURISPRUDENCE.—The development of legal systems and institutions together with a consideration of representative philosophies of law from ancient times to the present day. 3 s.h. (w)
PROFESSOR HALLOWELL

211. POLITICAL INSTITUTIONS OF THE FAR EAST.—An analysis of the ideas underlying the development of government in Japan, China, and Korea. Study of the writings of Lao-tse, Confucius and the sacred books of Buddhism and Shinto. Particular attention is given to the theory of Confucian bureaucracy, the Taikwa Reform, the development of the Tokugawa administrative state, the constitutional reforms of Sun Yat-sen in China and of the Meiji Era in Japan. 3 s.h. (w)
ASSOCIATE PROFESSOR BRAIBANTI

223. POLITICAL THOUGHT TO THE SEVENTEENTH CENTURY.—A survey from the time of Plato to the close of the seventeenth century; Graeco-Roman, Patristic and Germanic thought; individualism and cosmopolitanism; effect of the Church-State controversy and the conciliar movement; medieval constitutionalism; legislative sovereignty. 3 s.h. (w)
PROFESSOR WILSON

224. MODERN POLITICAL THEORY.—An historical survey and philosophical analysis of political theory from the beginning of the seventeenth to the middle of the nineteenth century. Attention is given to the rise of liberalism, the Age of Enlightenment, the romantic and conservative reaction, idealism and utilitarianism. 3 s.h. (w)
PROFESSOR HALLOWELL

225. COMPARATIVE GOVERNMENT.—A comparative study of modern political institutions with particular attention to European constitutional government and politics. 3 s.h. (w)
PROFESSOR COLE

226. COMPARATIVE GOVERNMENT.—A comparative study of modern political institutions with particular attention to European authoritarian and dictatorial government and politics. 3 s.h. (w)
PROFESSOR COLE

229. RECENT AND CONTEMPORARY POLITICAL THEORY.—The rise of positivism and its impact upon modern political thought, the origins of socialism, Marxism and its variants, socialism in the Soviet Union, nationalism, Fascism and National Socialism, the crisis in modern democracy, Christianity and the social order. 3 s.h. (w)
PROFESSOR HALLOWELL

231. AMERICAN POLITICAL THEORY.—An analysis of the main currents in American political thought from colonial beginnings to the present day, with emphasis upon the development of liberalism in America. 3 s.h. (w)
PROFESSOR HALLOWELL

235. THE BRITISH COMMONWEALTH.—An analysis of the political relationships between the members of the Commonwealth and a comparative study of the governments of the Dominions, with particular reference to Canada. 3 s.h. (w)
PROFESSOR COLE

252. SPANISH-AMERICAN CONSTITUTIONALISM.—A comparative study of the nature, sources, and use of political authority in the constitutional law of Argentina, Chile, Colombia, and Uruguay. 3 s.h.

AMERICAN GOVERNMENT AND PUBLIC ADMINISTRATION

125. AMERICAN POLITICAL PARTIES AND PRACTICAL POLITICS.—A study of the historical development, organization, and methods of political parties in the United States. 3 s.h. (w)
ASSOCIATE PROFESSOR SIMPSON

128. POLITICAL BEHAVIOR AND THE AMERICAN VOTER.—An analysis of the factors influencing Democratic, Republican, and independent voting behavior, citizen participation in elections, and the conduct of political campaigns. Emphasis will be placed upon the behavioral approach to political science. 3 s.h. (w)
DR. SINDLER

141. PUBLIC ADMINISTRATION.—An introduction to the role of administration in the governmental process considering principles of administrative organization, methods of administrative control, personnel and fiscal management. In general the study of the organizational and administrative problems encountered by any government agency charged with carrying out a public policy. 3 s.h. (w)
DR. HALL

146. LEGISLATION.—A study of the composition and structures of legislative bodies and of the legislative process with attention to procedure, methods, techniques, delegation of discretion, and the use of controls. 3 s.h. (w)
ASSOCIATE PROFESSOR SIMPSON

161. GOVERNMENT AND PLANNING.—A study of special areas in government planning. The semester's work is divided into three parts: city planning—land use and zoning, housing and urban redevelopment; resource planning—the governmental problems involved in planning for the conservation and use of natural resources, with special attention given to multi-purpose development of the river and its watershed, and a brief consideration of proposals and developments in the general field of economic planning. 3 s.h. (w)
ASSISTANT PROFESSOR HANSON

164. GOVERNMENT CONTROL OF THE SOCIAL AND ECONOMIC ORDER.—A study of governmental and administrative problems in the regulation of trade and the enforcement of the anti-trust laws, the regulation of transportation and communications and the role of the government in collective bargaining. Consideration is also given to the philosophic aspects of the general growth of government control of industry. 3 s.h. (w)
ASSISTANT PROFESSOR HANSON

174. POLITICS AND ECONOMICS.—An analysis of the influence of politically dominant forces and ideologies upon economic policies and of economics upon politics in societies of principal Western countries since the seventeenth century. 3 s.h. (w)
PROFESSOR VON BECKERATH

190. PUBLIC PERSONNEL ADMINISTRATION.—Principles, problems, and functions of government personnel administration; formal and informal organization for personnel management; comparison of public employment philosophies, policies and services with general personnel management, including recruitment, promotion, training, classification, morale and discipline, compensation, and retirement of public employees. 3 s.h. (E)

ASSISTANT PROFESSOR CHEEK

191. TOPICS IN LOCAL GOVERNMENT.—Problems in the general area of county and local government including the administration of government services such as education, public welfare, law enforcement; inter-governmental relationships; administrative reorganization; methods of popular control; and the reconstruction of state and local government so as to meet present-day needs. 3 s.h. (E)

ASSISTANT PROFESSOR CHEEK

207. AMERICAN CONSTITUTIONAL LAW AND THEORY.—A study of leading principles of American government, as developed through judicial interpretation of the Constitution. 3 s.h. (w)

PROFESSOR RANKIN

209. PROBLEMS IN STATE AND LOCAL GOVERNMENT IN THE UNITED STATES.—A study of the historical development of state and local governments, their present organizations and subdivisions, and their relation to each other. Special attention is given to the position of the states in the federal union through the study of federal-state, inter-state, and state-local relations. 3 s.h. (w)

PROFESSOR RANKIN

230. AMERICAN POLITICAL INSTITUTIONS.—A study of the formation and development of institutions of the national government in the United States, with historical and analytical treatment. Among other topics this course is concerned with the Constitutional Convention of 1787, and the development of Congress, the Presidency, and the Supreme Court. 3 s.h. (w)

PROFESSOR RANKIN

241. ADMINISTRATIVE MANAGEMENT.—An advanced course in public administration with special attention being given to the development of scientific management, its application to government in the United States and a consideration of current problems in organization, procedures, work simplification, and management improvement. 3 s.h. (w)

PROFESSOR CONNERY AND VISITING PROFESSOR REDFORD

242. NATIONAL ADMINISTRATION.—A study of the administrative organization, working concepts and procedures of the United States Government, illustrated through the operations of the Bureau of the Budget. 3 s.h. (w)

PROFESSOR CONNERY

246. GOVERNMENT ADMINISTRATION AND PUBLIC POLICY.—Through use of the laboratory and case study techniques, a consideration of the types of administrative problems that the United States Government encounters in the field of public policy, and their possible solution. 3 s.h. (w)

PROFESSOR CONNERY

271. SOCIO POLITICS AND CAPITALISM.—Labor and labor policies in Western Europe and the United States in the nineteenth and twentieth centuries; the development of monopoly power and political power of labor in recent decades. 3 s.h. (w)

PROFESSOR VON BECKERATH

291. PROBLEMS OF MUNICIPAL GOVERNMENT.—An analysis of problems relating to the structural system and activities of municipalities in the United States. 3 s.h. (w)

PROFESSOR RANKIN

292. MUNICIPAL ADMINISTRATION.—A study of principles and methods relating to municipal administration in the United States. 3 s.h. (w)

PROFESSOR RANKIN

INTERNATIONAL LAW AND RELATIONS

121. ELEMENTS OF INTERNATIONAL RELATIONS.—Analysis of international politics, of the foundations of national power, and of international co-operation, with emphasis upon attempted solutions of the central problems of international security. 3 s.h. (w)

DR. ELLIS

122. MODERN INTERNATIONAL POLITICS.—A survey of politics leading to the two World Wars with emphasis upon present day conditions resulting from these major conflicts. 3 s.h. (w) DR. ELLIS

Students who have received credit for History 135-136 may not receive credit for this course.

131. SURVEY OF FAR EASTERN POLITICS.—An introductory survey of international politics in Eastern Asia and the Western Pacific; the rise of Japan as a modern state; China's struggle for political unity, independence and national development. 3 s.h. (Formerly Political Science 111) (w)

DR. ELLIS AND ASSOCIATE PROFESSOR BRAIBANTI

132. CONTEMPORARY PROBLEMS IN FAR EASTERN POLITICS.—The impact of World War II and its aftermath on political institutions and economic structures in the Pacific area. 3 s.h. (Formerly Political Science 112) (w)

DR. ELLIS AND ASSOCIATE PROFESSOR BRAIBANTI

158. CONTROL OF AMERICAN FOREIGN POLICY.—A consideration of the forces which are responsible for the formulation of American foreign policy, and a study of the important factors which have influenced contemporary United States policy in the major areas of the world. The course includes an analysis of the respective roles of the President, Congress, Department of State, and the United Nations, as well as military and public opinion. 3 s.h. (w)

212. INTERNATIONAL POLITICS OF THE FAR EAST.—An analysis of the relations of China, Japan and Korea *inter se* and with outside powers, with emphasis upon changing power relationships within the Asian cultural sphere. 3 s.h. (w)

ASSOCIATE PROFESSOR BRAIBANTI

221. INTERNATIONAL PUBLIC ORGANIZATION.—A study of the structure and functioning of the United Nations organs, of related specialized agencies such as the International Labor Organization, and of regional agencies such as the Organization of American States. 3 s.h. (w)

PROFESSOR WILSON

227-228. INTERNATIONAL LAW.—Elements of international law, particularly as interpreted and applied by the United States; rights and duties of states with respect to recognition, state territory and jurisdiction, nationality, diplomatic and consular relations, treaties, treatment of aliens, pacific settlement of disputes, international regulation of the use of force, and collective security. 6 s.h. (w)

PROFESSOR WILSON

UNDERGRADUATE SEMINARS

201. SENIOR SEMINAR IN POLITICAL SCIENCE.—A seminar intended primarily for majors in Political Science, devoted to the reading, discussion and analysis of major works in modern and contemporary political science. Students are expected to prepare papers on relevant topics for group discussions. Open only to seniors. Prerequisite: consent of the instructor. 3 s.h. (w) PROFESSORS COLE AND HALLOWELL

202. SENIOR SEMINAR IN POLITICAL SCIENCE.—Intended primarily for majors in Political Science, this seminar provides an opportunity for the application of principles to current political problems. It provides a means whereby specially qualified students can make a concentrated study of some problem of their own choice. Papers are required and special attention is given to research methods and materials. Political Science 201 is recommended but not required. Open only to seniors. Prerequisite: consent of the instructor. 3 s.h. (w) PROFESSOR CONNERY

DEPARTMENTAL MAJOR

Prerequisite: Political Science 11-12 or 61-62 or 63-64.

Major Requirements: Eighteen semester hours of work in the Department above courses 11-12 or 61-62 or 63-64, including at least nine semester hours in Senior-Graduate courses.

Related Work: Six hours each in two departments approved by the Political Science adviser. Courses may not be those primarily open to freshmen. Usually related work is taken in the Departments of History, Economics, Sociology, or Philosophy.

PSYCHOLOGY

PROFESSOR RODNICK, CHAIRMAN; ASSOCIATE PROFESSOR GARMEZY, DIRECTOR OF UNDERGRADUATE STUDIES; PROFESSORS ADAMS, DAI, KOCH, KUDER, LUNDHOLM, AND ZENER; ASSOCIATE PROFESSORS BANHAM, COHEN, KIMBLE, AND LODGE; ASSISTANT PROFESSORS BORSTELMANN, COLLIER, GUTTMAN, JONES, MCHUGH, PARSONS, AND REICHENBERG-HACKETT; VISITING ASSISTANT PROFESSOR KALISH

Three or six semester hours in psychology may be used to meet the Social Science and History requirement for the A.B. Degree. The courses which will meet the requirement are: Psychology 91 or Psychology 91 plus either Psychology 100 or 101.

Psychology 91 or its equivalent is a prerequisite for all other courses in psychology. Six semester hours in psychology (including Psychology 91) or special permission of the course instructor or the director of undergraduate studies are required for admission to Psychology 144, 145, 148, 206, 212, 215, 229, 230, and 236.

91. INTRODUCTORY PSYCHOLOGY.—An introduction to the facts, principles, and problems of normal adult psychology through a study of psychological methods as applied to motivation, emotions, perception, sensation, thinking, memory, learning, individual differences, and personality. 3 s.h. (E & W) STAFF
[Offered both semesters]

100. PERSONALITY AND SOCIAL BEHAVIOR.—A survey of basic psychological principles underlying the study of personality in relation to the social environment. Among the topics discussed are theories of personality, the process of socialization of the individual, factors influencing adjustment to the social environment, the interaction of culture and personality. 3 s.h. (E)

ASSISTANT PROFESSORS JONES AND REICHENBERG-HACKETT

101. INTRODUCTORY SOCIAL PSYCHOLOGY.—A survey of problems, concepts and methods in the study of social relations and group behavior. Topics to be discussed include: socio-cultural factors in the development of motives, values, and attitudes; psychological factors underlying the development of group opinions; the study of small-group behavior with emphasis on social influences and communication; prejudice and stereotypy. 3 s.h. (E & W)

PROFESSOR ADAMS, ASSISTANT PROFESSORS JONES AND MCHUGH

104. COMPARATIVE PSYCHOLOGY.—An examination of the bearing upon general psychological theory of experimental investigations of animal behavior in the fields of motivation and learning. 3 s.h. (E)
[Not offered 1955-56]

106. ABNORMAL PSYCHOLOGY.—A systematic presentation of the psychology of functional mental disorders with emphasis on its bearing upon general psychological theory. 3 s.h. (E) PROFESSOR LUNDHOLM

110. APPLIED PSYCHOLOGY.—Applications of psychology to problems of personnel selection, industrial efficiency, advertising and selling, and other problems of practical interest. 3 s.h. (E) ASSISTANT PROFESSOR MCHUGH

111. ADVANCED GENERAL PSYCHOLOGY.—A more intensive study of several selected problem areas in the field of general psychology with special emphasis on experimental methods and findings in the areas considered. 3 s.h. (E)
[Not offered 1955-56]

116. PSYCHOLOGY OF ADJUSTMENT.—The course is planned to give an adequate understanding of problems of adjustment and of mental hygiene. Lectures and discussions cover an application of the principles and findings of normal and abnormal psychology as these relate to the adjustment of the average individual in our changing society; a survey of the principles of mental hygiene; discussions of current socio-cultural trends significant for individual adjustment. 3 s.h. (E)

ASSISTANT PROFESSOR REICHENBERG-HACKETT

Not open to students who have had Education 68.

117-118. EXPERIMENTAL AND STATISTICAL METHODS IN PSYCHOLOGY.—Study of the procedures and methods of psychological investigation through emphasis on human and animal experimentation in such areas as learning, motivation and perception. Instruction in elementary statistical techniques and their application to the analysis and interpretation of psychological data. Experiments are arranged in a sequence of increasing complexity with respect to subject matter, experimental design and statistical methods. Laboratory and lectures. 8 s.h. (E)

ASSISTANT PROFESSOR GUTTMAN

121. CHILD PSYCHOLOGY.—A detailed study of the practical problems of infancy and early childhood, with special emphasis upon learning, emotional development, social adjustment, and modern conceptions and methods of child training and guidance. 3 s.h. (E)

ASSISTANT PROFESSOR MCHUGH

Not open to students who have had Education 118.

122. ADJUSTMENT OF THE PRE-SCHOOL CHILD.—Study and application of techniques of observing, recording and interpreting the behavior of the pre-school child. The course is designed to meet the needs of students interested in the personality development and social adjustment of children; to train them in techniques of observing and interpreting the physical, emotional, and intellectual development of the individual child; the role of each child within the social structure of a play group, and a study of the development of group integration. One hour lecture and 4 hours laboratory. Permission of the instructor or the Director of Undergraduate Studies. 3 s.h. (E).

ASSISTANT PROFESSOR REICHENBERG-HACKETT

126. ADOLESCENT PSYCHOLOGY.—The mental, social, and emotional development of adolescence and youth will be studied, with special attention given to such topics as interests, motivations, home problems, sex differences, recreation, delinquency, and development for citizenship. Prerequisite: Psychology 121 or Education 118. 3 s.h. (E)

ASSISTANT PROFESSOR MCHUGH

130. PRINCIPLES AND METHODS OF PSYCHOLOGICAL EVALUATION.—This is an introductory course in test methods used by psychologists in measuring and evaluating mental processes. The nature, purposes and utilization of various types of tests and psychological techniques will be discussed and demonstrated. Among the tests to be studied will be standard scales of intelligence, verbal and performance, individual and group methods; tests of special abilities, aptitudes, attitudes and interests; personality tests, rating scales and projective methods. 3 s.h. (E)

ASSOCIATE PROFESSOR BANHAM

132. THE PSYCHOLOGY OF INDIVIDUAL DIFFERENCES.—A study of the nature and causes of individual and group variations in intelligence, special abilities, social and emotional characteristics. These will be considered in relation to developmental sequence, aging factors, sex, race and socio-economic conditions. 3 s.h. (E)

ASSOCIATE PROFESSOR BANHAM

141. PERSONALITY AND BEHAVIOR DISORDER.—Behavior disorder studied from the viewpoint of the psychological principles underlying the adjustment of the deviant personality. 3 s.h. (E)

PROFESSOR RODNICK

144. LEARNING AND MOTIVATION.—A survey of the basic facts and principles of human and animal learning and motivation. Topics covered include conditioning, trial and error learning, insightful learning, primary and secondary motivation, the relationship between motivation and learning and cultural variations in motives. Students in the course will perform a series of representative experiments. Prerequisite: 6 s.h. in psychology or special permission of the instructor or the director of undergraduate studies. 3 s.h. (E)

ASSOCIATE PROFESSOR KIMBLE

145. EXPERIMENTAL APPROACHES TO PERSONALITY.—A survey of psychological studies related to anxiety, conflict and frustration behavior and their implications for personality organization and development. Students will perform a series of representative experiments. Prerequisite: 6 s.h. in psychology or special permission of the instructor or the director of undergraduate studies. 3 s.h. (E)

ASSOCIATE PROFESSOR GARMEZY

146. EXPERIMENTAL PSYCHOLOGY IN INDUSTRY AND ENGINEERING.—Applications of psychological principles to the solution of problems in industry and engineering. Topics covered include visual and auditory communication, visibility and legibility, visual display, control design, machine design, motivational and learning factors influencing production. Representative studies will be reviewed. Students in the course will perform several pertinent experiments. 3 s.h. (E)

[Not offered 1955-56]

ASSISTANT PROFESSOR COLLIER

148. PSYCHOLOGY OF PERCEPTION AND THINKING.—A study of the basic phenomena of perception and thinking as determined by the stimulus situation, motivation, learning and personality variables. Students will perform a series of representative experiments. Prerequisites: 6 s.h. in psychology or special permission of the instructor or the director of undergraduate studies. 3 s.h. (E)

PROFESSOR ZENER

203. PURPOSIVE PSYCHOLOGY: CONATION AND OUR CONSCIOUS LIFE.—A systematic presentation of the psychology of adult human achievements, adaptive as well as creative, with emphasis upon the significance for these endeavors of the acts of experiencing. 3 s.h. (E)

PROFESSOR LUNDHOLM

206. SOCIAL PSYCHOLOGY.—A study of the constitution of society by man and of man by society. An analysis of social-psychological phenomena, such as: kinds of membership character, social movements, status and role-taking behavior, social determinants of perception and personality development and perceptual determinants of societies. Prerequisite: 6 s.h. in psychology or special permission of the instructor or the director of undergraduate studies. 3 s.h. (E)

PROFESSOR ADAMS

212. PHYSIOLOGICAL PSYCHOLOGY.—A survey of the interrelationships of biological and psychological factors in behavior, with particular reference to reflex action, motivation, learning and emotion. Emphasis will be placed on the relation between psychological theories and biological data. Presupposes Introductory Zoology or its equivalent. Prerequisite: 6 s.h. in psychology or special permission of the instructor or the director of undergraduate studies. 3 s.h. (E)

ASSISTANT PROFESSOR GUTTMAN

215. DEVELOPMENTAL PSYCHOLOGY.—Theory of personality structure and the changes it undergoes in development from infancy to old age, learning, conflict, character, intelligence, developmental crises, etc.; evaluation of researches on personality dynamics. Prerequisite: 6 s.h. in psychology or special permission of the instructor or the director of undergraduate studies. 3 s.h. (E)

PROFESSOR ADAMS

223. ABNORMAL PSYCHOLOGY.—A systematic presentation of the psychology of functional mental disorders with emphasis on its bearing upon general psychological theory. This course constitutes a slightly more technical survey of the same topic matter as Psychology 106. Seniors who have taken Psychology 106 are not eligible for Psychology 223. 3 s.h. (E)

PROFESSOR LUNDHOLM

229, 230. INTRODUCTION TO RESEARCH.—Restricted to senior psychology majors with at least a "B" average in psychology who have completed Psychology 117-118 and one course from among 144, 145, and 148. Before registration an outline of the project must be submitted for written approval by a departmental committee and by the staff member to whom it assigns the supervision of the research. (E)

ASSOCIATE PROFESSORS KIMBLE AND GARMETZKY AND STAFF

236. THEORETICAL PSYCHOLOGY.—This course will be devoted to the analysis of techniques of theory construction in psychology. The discussion of these methodological issues will be coordinated with the analysis of concrete formulations in contemporary psychological theory. Prerequisite: 6 s.h. in psychology or special permission of the instructor or the director of undergraduate studies. 3 s.h. (E)

PROFESSOR KOCH

242 and Education 242. MEASUREMENT OF APTITUDES, INTEREST AND ACHIEVEMENT.—A study of the theories and principles of psychological measurement as applied to aptitude, interest and achievement testing. Prerequisite: 12 hours of psychology or educational psychology (6 hours of which may be taken concurrently). 3 s.h.

PROFESSOR KUDER

DEPARTMENTAL MAJOR

Prerequisite: Psychology 91 or equivalent.

Major Requirements: 24 semester hours in psychology including: Psychology 91, 117-118; at least one course selected from Psychology 144, 145, and 148; at least one 200 level course.

Related Work: 18 semester hours of related work which usually includes courses in zoology and sociology or anthropology. Additional selected courses in chemistry, economics, education, mathematics, philosophy and physics which may meet the minor requirement must have the approval of the director of undergraduate studies.

RELIGION

PROFESSOR MYERS, CHAIRMAN; ASSOCIATE PROFESSOR PHILLIPS, DIRECTOR OF UNDERGRADUATE STUDIES; ASSISTANT PROFESSOR PRICE, SUPERVISOR OF FRESHMAN INSTRUCTION;
PROFESSOR CRUM; ASSISTANT PROFESSORS BRADLEY, MANSCHRECK,
AND SALES; DR. BENNETT; MESSRS. DANIELS AND OSBORN

The uniform course requirements in Religion may be fulfilled by completing six semester hours in any of the following courses: 1, 2, 51, 52, 91, 94, 101, 103, 104, 114, 130, 132, 135, 181, 182.

Specific prerequisites are indicated in the descriptions of some courses. Where prerequisites are stated in terms of Bible hours, any one of the following will satisfy a 3 semester hour prerequisite and any two, a 6 semester hour prerequisite: 1, 2, 51, 52, 101, 103, 104, 114.

1. THE ENGLISH BIBLE.—A survey of the contents of the Old Testament books in the light of their origin in the history and religion of the Hebrew people. 3 s.h. (E & W) PROFESSOR CRUM; ASSISTANT PROFESSORS MANSCHRECK AND PRICE;
DR. BENNETT; MESSRS. DANIELS AND OSBORN

2. THE ENGLISH BIBLE.—A study of the personalities and literature of the New Testament against their Jewish, Hellenistic and Roman background. Although Religion 1 is not a prerequisite, it will be an aid to the student to complete 1 before taking 2. 3 s.h. (E & W)
ASSOCIATE PROFESSOR PHILLIPS; ASSISTANT PROFESSORS MANSCHRECK
AND PRICE; DR. BENNETT; MESSRS. DANIELS AND OSBORN

51. THE ENGLISH BIBLE.—An introductory course in the Old Testament for sophomores and juniors. (See description of Religion 1.) Students may not receive credit for both 51 and 1. 3 s.h. (E & W)
PROFESSOR MYERS; ASSISTANT PROFESSORS BRADLEY, MANSCHRECK, PRICE
AND SALES; MESSRS. DANIELS AND OSBORN

52. THE ENGLISH BIBLE.—A survey course in New Testament life and literature for sophomores and juniors. (See description of Religion 2.) It will be to the advantage of the student to take Religion 1 or 51 before taking 52. Students may not receive credit for both 52 and 2. 3 s.h. (E & W)
PROFESSOR MYERS; ASSOCIATE PROFESSOR PHILLIPS; ASSISTANT
PROFESSORS BRADLEY, MANSCHRECK, AND SALES;
MESSRS. DANIELS AND OSBORN

91. AN INTRODUCTION TO CHRISTIAN ETHICS.—A study of the theistic interpretation of man's moral experience, based upon the world-view of the Bible, as contrasted with other classical and contemporary moral philosophies. In the survey of the ethical religion of the Bible special attention is given to the Hebrew prophets, to Jesus and the Apostle Paul. 3 s.h. (W) ASSISTANT PROFESSOR PRICE

94. THE BEGINNINGS OF THE CHRISTIAN CHURCH.—A study of the development of Christianity in the first two hundred years. Special emphasis will be given to the work of Paul, the later New Testament writings, the *Apostolic Fathers* and the early Apologists. Prerequisite: Religion 2 or 52. 3 s.h. (W)
ASSISTANT PROFESSOR SALES

101. THE SOCIAL TEACHINGS OF THE PROPHETS AND JESUS.—A study of the social teachings of the Old Testament prophets and of the social ideas of Jesus as they appear in the four gospels. Not open for credit to students who take Religion 103 or 114. Either semester. 3 s.h. (w) ASSOCIATE PROFESSOR PHILLIPS

103. THE PROPHETS OF THE OLD TESTAMENT.—In this course a study is made of the history and nature of prophecy, with particular attention being given to the messages of the outstanding pre-exilic literary prophets. Students may not receive credit for both 103 and 107 or 103 and 101. 3 s.h. (E & W)

PROFESSOR MYERS; ASSISTANT PROFESSOR SALES

104. JUDAISM FROM THE EXILE TO THE FALL OF JERUSALEM IN 135 A.D.—A study of post-exilic Judaism: the prophetic and apocalyptic developments of normative Judaism. 3 s.h. (w) ASSISTANT PROFESSOR SALES

107. THE GREAT PROPHETS OF ISRAEL.—Special consideration will be given to the times and messages of Amos, Hosea, Isaiah, Jeremiah and Ezekiel. An effort will be made to appraise their contributions to literature, ethics, and faith. Some attention will be given to the relevance of prophetic religion for the present. Prerequisites: Religion 1, 2 or 51, 52 or equivalent. Students may not receive credit for both 103 and 107. 3 s.h. PROFESSORS MYERS

114. THE LIFE AND TEACHINGS OF JESUS.—This course considers the period in which Jesus lived, the record of his life, and the meaning of his teachings as recorded in the Synoptic Gospels. Students may not receive credit for 114 and 101; or 114 and 116. 3 s.h. (E & W) PROFESSOR MYERS; ASSISTANT PROFESSORS

BRADLEY AND PRICE

116. THE MISSION AND MESSAGE OF JESUS.—An intensive study analyzing and interpreting the Gospel records of Jesus' career, with emphasis upon their significance for the Christian religion. Students will be expected to select and make reports on particular projects. Prerequisites: Religion 1, 2 or 51, 52 or equivalent. Students may not receive credit for both 114 and 116. 3 s.h. (w)

ASSISTANT PROFESSOR PRICE

130. CHRISTIAN ETHICS IN HISTORY AND MODERN LIFE.—A historical study of how Christians from New Testament times to the present have interpreted and expressed their ethical convictions. The aim of the course will be to provide historical depth for evaluating contemporary ethical issues. Prerequisite: Religion 91 or 3 s.h. of Bible. 3 s.h. ASSISTANT PROFESSOR MANSCHRECK

132. THE CHRISTIAN AND CONTEMPORARY SOCIAL PROBLEMS.—A critique of some basic ideas of modern man as they affect ethical decisions. Special consideration will be given to problems of the social and economic structures of society, war and race. The aim of the course will be to encourage personal evaluation—using pertinent Biblical teachings and the views of contemporary writers as a basis for judgment. Prerequisite: Religion 91 or 3 s.h. of Bible. 3 s.h.

ASSOCIATE PROFESSOR PHILLIPS; ASSISTANT PROFESSORS MANSCHRECK AND PRICE

134. CONTEMPORARY RELIGIONS IN THE UNITED STATES.—A study of Judaism, Catholicism and Protestantism with reference to each faith's distinctive beliefs and practices; and a comparison of common and dissimilar features. 3 s.h. (w) ASSOCIATE PROFESSOR PHILLIPS

135. CHRISTIAN BIOGRAPHY.—A study of Christianity in the lives and writings of a few key persons, for example, Augustine, Francis of Assisi, Luther, and Wesley. The aim of the course is to present the central stream of the development of Christian thought and practice through the study of men who were significant in their own times and whose ideas are relevant to an understanding of current Christianity. Prerequisite: 3 s.h. of Bible. 3 s.h. ASSISTANT PROFESSOR MANSCHRECK

169. CHARACTER PROBLEMS.—The psychology of adolescence and the problems of youth in character building, with attention to the character education agencies in local communities. 3 s.h. (E & W) PROFESSOR CRUM

170. RELIGION AND THE FAMILY.—A study of marriage and American home life with emphasis upon ethical and religious aspects. Not open to students who take Sociology 250. 3 s.h. (E & W) PROFESSOR CRUM

181. THE RELIGIOUS ENVIRONMENT OF THE BIBLICAL WORLD.—After a brief introduction to the nature and early development of religion, the history and literature of the religions of the ancient Near East are surveyed. Special attention is given to the cultures of Egypt, Mesopotamia, Babylonia, Persia, Palestine, and Greece. 3 s.h. ASSISTANT PROFESSOR BRADLEY

182. SURVEY OF THE WORLD'S GREAT RELIGIONS.—The world's living religions are dealt with in terms of the historical development and the beliefs, practices and contemporary significance of each. Prerequisite: 3 s.h. of Bible. 3 s.h. ASSISTANT PROFESSOR BRADLEY

185. THE NEGRO IN THE RELIGIOUS LIFE OF AMERICA.—An examination of the ways in which the Christian Church has attempted to apply the Christian ethic to race relations with attention to the ethical aspects of these relations in American life and culture. 3 s.h. PROFESSOR CRUM

192. CHRISTIAN BELIEFS.—An introductory study of the nature, significance and contemporary relevance of some of the important Christian beliefs. Prerequisite: 3 semester hours of Bible. 3 s.h. (E) ASSISTANT PROFESSOR BRADLEY

The following courses offered in the Divinity School may be taken by undergraduates:

103 (DS)-104 (DS). HELLENISTIC GREEK.—Designed for beginners to enable them to read the Greek of the New Testament. 6 s.h. MR. EDWARDS

201 (DS)-202 (DS). FIRST HEBREW.—The principles and structure of the Hebrew language with translation of selected Old Testament narratives. 6 s.h. PROFESSOR STINESPRING

207 (DS)-208 (DS). SECOND HEBREW.—Samuel or Kings the first semester and Isaiah the second. 6 s.h. DR. CHAMBERLAIN

DEPARTMENTAL MAJOR

Prerequisite: Religion 1-2 or 51-52.

Major Requirements: A major in the Department of Religion consists of 18 semester hours of work, exclusive of the introductory course, selected with the approval of the instructor under whose supervision the student does his major work. Six of the 18 semester hours must be in courses with biblical content.

Related Work: This is usually twenty-four semester hours, in courses that relate to the educational needs of the student. In general, it includes six semester hours in philosophy, psychology, and sociology. Other courses may be chosen from the offerings in art, education, English literature, health education, Greek, history, Latin and political science.

ROMANCE LANGUAGES

PROFESSOR JORDAN, CHAIRMAN; ASSOCIATE PROFESSOR DOW, DIRECTOR OF UNDERGRADUATE STUDIES IN FRENCH; PROFESSOR DAVIS, DIRECTOR OF UNDERGRADUATE STUDIES IN SPANISH; ASSISTANT PROFESSOR CORDLE, SUPERVISOR OF FRESHMAN STUDIES IN FRENCH; ASSISTANT PROFESSOR FEIN, SUPERVISOR OF FRESHMAN STUDIES IN SPANISH; PROFESSORS PREDMORE AND WALTON; ASSOCIATE PROFESSORS ARCHIE, CASTELLANO AND DEMOREST; ASSISTANT PROFESSORS TORRE AND VINCENT; DR. GRANT; MR. BEEBE, MRS. CASTELLANO, MRS. DOW, MR. PRATT, MR. WATKINS AND MRS. WHITAKER; MRS. BRYAN, MR. GIDEL AND MR. THOMPSON

French 51-52 and Spanish 65-66 are the prerequisites for all elective courses. Some preparation in courses of the 100 level is prerequisite to election of courses above 200, except by special authorization of the department.

Students who, by reason of foreign residence, have had special opportunities in French or Spanish must be classified by the Director of Undergraduate Studies.

FRENCH

1-2. ELEMENTARY FRENCH.—Essentials of grammar, reading of appropriate material, drill in the spoken language. 6 s.h. (w & e) DR. GRANT AND STAFF

3-4. INTERMEDIATE FRENCH.—Readings in standard literary texts, review of verbs and syntax, oral exercises based on the reading texts. Prerequisite: French 1 and 2 or two years of high-school French. 6 s.h. (w & e)

ASSOCIATE PROFESSOR DOW AND STAFF

51-52. INTRODUCTION TO FRENCH LITERATURE.—Reading of representative modern and contemporary literary texts. Study of the language with stress on the achievement of oral comprehension and ability to read. Prerequisite: French 3-4 or equivalent. 6 s.h. (w & e)

PROFESSOR WALTON AND STAFF

55. INTERMEDIATE CONVERSATION.—To be taken concurrently with French 51, except by departmental permission. Enrollment limited to 10 students per section. Recommended for prospective French majors.

MRS. DOW

56. INTERMEDIATE CONVERSATION.—Prerequisite: French 55. To be taken concurrently with French 52. 1 s.h. (e)

MRS. DOW

108. THE FRENCH ROMANTIC MOVEMENT.—The impact of the modern world on the French thinkers and great poets of the early nineteenth century. Readings from Rousseau; the eyewitness testimony of Chateaubriand; the lyric poetry of Lamartine, Vigny, Musset, and Hugo. 3 s.h.

DR. GRANT

111. FRENCH DRAMA OF THE NINETEENTH CENTURY.—A survey of the French theater from the romantic period to the *Théâtre libre*. 3 s.h. (e)

ASSOCIATE PROFESSOR DOW

112. FRENCH DRAMA OF THE TWENTIETH CENTURY.—Reading of representative plays selected from the works of Bernstein, Maeterlinck, Rostand, Sarmont, Vildrac, J.-J. Bernard, Claudel, Lenormand, Pagnol, Giraudoux, and Anouilh. 3 s.h. (e)

ASSOCIATE PROFESSOR DOW

125. LIBERAL THINKERS OF THE EIGHTEENTH CENTURY.—Selected works of such authors as Diderot, Montesquieu, Rousseau, and Voltaire will be studied from the point of view of their impact upon the social and political thinking of the day. 3 s.h. (w)

ASSOCIATE PROFESSOR ARCHIE

127-128. ADVANCED COMPOSITION AND CONVERSATION.—During the first semester elements of syntax are briefly reviewed, along with constant drill in the conversational idiom. In the second semester, there are exercises in free composition, with intensified treatment of pronunciation and diction. 6 s.h. (e)

MRS. DOW

134. CONTEMPORARY FRENCH LIFE AND THOUGHT.—An introduction to the essential currents in French thought since 1885. Representative literary works are used as a basis for analysis and discussion of the contemporary scene. 3 s.h. (w)

ASSISTANT PROFESSOR CORDLE

210. THE AGE OF RICHELIEU.—An introduction to French life and thought in the literature of the early seventeenth century. The transition from the Renaissance to classical culture. Discussions of the baroque, the *Libertins*, the scientific rationalists, the Counter Reformation. Extensive reading in Corneille and Pascal. Lectures in French. 3 s.h. (e)

ASSOCIATE PROFESSOR DEMOREST

213. FRENCH CLASSICISM.—Its initial phase. Readings from Malherbe, Molière, Racine, Boileau, La Fontaine, La Rochefoucauld, Madame de Sévigné, La Bruyère, and others. 3 s.h. (e)

PROFESSOR WALTON

214. FRENCH CLASSICISM.—Its final phase. Readings from Fontenelle, Saint-Simon, Abbé Prévost, Marivaux, Lesage, Montesquieu, Voltaire, and others. 3 s.h.

PROFESSOR WALTON

215, 216. THE MODERN FRENCH NOVEL.—A survey of the novel form from the seventeenth to the twentieth century, with particular attention to the analysis of fundamental literary tendencies; classicism, rationalism, romanticism, and realism. 6 s.h. (E) PROFESSOR JORDAN

225. POLITICAL AND RELIGIOUS LITERATURE IN THE ROMANTIC PERIOD.—The Romantic outlook as it shapes political and religious literature from the Consulate to the Revolution of 1848. The mystics of conservatism, the prophets of a Romantic faith, and the heralds of a social republic. Lectures in French. 3 s.h. ASSOCIATE PROFESSOR DEMOREST

227. FRENCH POETRY SINCE THÉOPHILE GAUTIER.—Readings from the principal figures of the Parnassian and Symbolist movements, including Baudelaire, Leconte de Lisle, Heredia, Verlaine, Rimbaud, Mallarmé, Régner. 3 s.h. (E) PROFESSOR WALTON

238. ANATOLE FRANCE.—Analysis of the principal phases of his work and its relation to the French tradition. Reading of his poetry, *Le Crime de Sylvestre Bonnard*, *Thaïs*, *Le Jardin d'Epicure*, *Les Dieux ont soif*, *Le Lys Rouge*, *L'Île des Pingouins*, part of *La Vie Littéraire*. 3 s.h. (E) PROFESSOR WALTON

SPANISH

1-2. ELEMENTARY SPANISH.—Essentials of grammar, reading of appropriate materials, drill in the spoken language. 6 s.h. (W & E) ASSISTANT PROFESSOR FEIN AND STAFF

3-4. INTERMEDIATE SPANISH.—Readings in standard literary texts, review of verbs and syntax, oral exercises based on the reading texts. Prerequisite: Spanish 1 and 2 or two years of high-school Spanish. 6 s.h. (W & E) PROFESSOR PREDMORE AND STAFF

65-66. INTRODUCTION TO SPANISH LITERATURE.—Reading of representative modern and contemporary literary texts. Study of the language with stress on the achievement of oral comprehension and ability to read. Prerequisite: Spanish 3-4 or equivalent. 6 s.h. (W & E) ASSOCIATE PROFESSOR CASTELLANO AND STAFF

68. INTRODUCTION TO SPANISH-AMERICAN LITERATURE.—Reading of selected modern novels typical of Spanish-American life, culture, and thought. This course is offered sometimes as an alternate to Spanish 66 and is accepted in fulfillment of major and graduation requirements. 3 s.h. (W & E) ASSOCIATE PROFESSOR CASTELLANO AND STAFF

71. INTERMEDIATE CONVERSATION.—To be taken concurrently with Spanish 65, except by departmental permission. Enrollment limited to 10 students per section. Recommended for prospective Spanish majors. 1 s.h. (E) MRS. CASTELLANO

72. INTERMEDIATE CONVERSATION.—Prerequisite: Spanish 71. To be taken concurrently with Spanish 66 or 68. 1 s.h. (E) MRS. CASTELLANO

155. REPRESENTATIVE WRITERS OF SPANISH AMERICAN LITERATURE.—Reading and discussion of major works which illustrate literary trends from the early Colonial period to 1880. 3 s.h. (E) ASSISTANT PROFESSOR FEIN

156. REPRESENTATIVE WRITERS OF SPANISH AMERICAN LITERATURE.—Study of works which are examples of the principal literary currents after 1880, with particular reference to their relationship to social ideas and problems in the same period. 3 s.h. (E) ASSISTANT PROFESSOR FEIN

161. SPANISH LITERATURE: OLDER PERIOD.—Reading and interpretation of representative Spanish writers from the beginnings through the Golden Age. 3 s.h. (E) PROFESSOR DAVIS

162. SPANISH LITERATURE: MODERN PERIOD.—Reading and interpretation of representative writers from Romanticism to the present. 3 s.h. (E) ASSISTANT PROFESSOR TORRE

173. ADVANCED CONVERSATION.—One hour a week will be devoted to a review of the elements of syntax. The remainder of the course aims to develop facility of expression through constant drill on vocabulary and conversational idiom. Prerequisite: Spanish 66 (or 68) and 71-72, or permission. 3 s.h. (E)

ASSOCIATE PROFESSOR CASTELLANO

174. PHONETICS AND DICTION.—This course is intended to round out the students' oral experience, with emphasis on accurate pronunciation. Use is made of phonographic demonstrations and corrective exercises, with individual recordings. Prerequisite: Spanish 173, or permission. 3 s.h. (E) ASSOCIATE PROFESSOR CASTELLANO

257. OLD SPANISH LANGUAGE.—The historical development of the language together with illustrative readings. 3 s.h. (E) PROFESSOR DAVIS

258. OLD SPANISH LITERATURE.—The literature of the Middle Ages and the early Renaissance. 3 s.h. (E) PROFESSOR DAVIS

260. ADVANCED COMPOSITION AND SYNTAX.—Study of fundamental difficulties in the language; practice in writing idiomatic Spanish; exercises in free composition. For students who have a satisfactory command of Spanish grammar and fair conversational ability. Prerequisites: Spanish 173-174, or permission 3 s.h. (E) ASSOCIATE PROFESSOR CASTELLANO

261. NINETEENTH CENTURY NOVEL.—A study of literary and social trends in the last half of the nineteenth century. Readings will be selected from the novels of Valera, Pereda, Galdós, Pardo-Bazán, Blasco Ibáñez, and their contemporaries. 3 s.h. (E) PROFESSOR DAVIS

264. MODERN AND CONTEMPORARY SPANISH THEATRE.—A brief review of the modern and contemporary Spanish theatre from the period of Romanticism. Lectures, reading, and discussion of the most representative works of Benavente, Martínez Sierra, los hermanos Quintero, etc. 3 s.h. (E)

ASSOCIATE PROFESSOR CASTELLANO

265. GOLDEN AGE LITERATURE: CERVANTES.—The life and thought of Cervantes with special emphasis on his *Quijote*. 3 s.h. (E) PROFESSOR PREDMORE

266. GOLDEN AGE LITERATURE: THE DRAMA.—Study of the chief Spanish dramatists of the seventeenth century with readings of representative plays of this period. 3 s.h. (E) ASSOCIATE PROFESSOR CASTELLANO

270. THE SPANISH LANGUAGE IN AMERICA.—Development of the Spanish language from the time of the Discovery to the present. 3 s.h. PROFESSOR PREDMORE

275. CONTEMPORARY SPANISH LITERATURE. ESSAY AND LYRIC POETRY.—A study of the revision of national values and literary expression in the twentieth century with particular reference to the crisis of 1898 and to the enrichment of the Spanish tradition through extrapeninsular influences. 3 s.h. (E)

PROFESSOR PREDMORE

276. CONTEMPORARY SPANISH LITERATURE: NOVEL.—A study of tradition and innovation in the twentieth century Spanish novel and emphasis on the novels of Unamuno, Baroja, Valle Inclán, and Pérez de Ayala. 3 s.h. (E)

PROFESSOR PREDMORE

THE TEACHING OF ROMANCE LANGUAGES

RL 118. THE TEACHING OF ROMANCE LANGUAGES.—Evaluation of objectives and methods; a study of the practical problems involved in the teaching of reading, writing, hearing, and speaking; analysis of text books, special foreign language programs, teaching aids, and testing techniques. 3 s.h. (E)

ASSOCIATE PROFESSOR DOW

DEPARTMENTAL MAJOR

Prerequisites:

For French: French 51-52 (combined with 55-56), or equivalent.

For Spanish: Spanish 65-66 (combined with 71-72), or equivalent.

Major Requirements:

For French: Eighteen semester hours of work must be completed in courses numbered above 100 and must include: (a) six semester hours in course 127-128; (b) six semester hours of literature in courses 210 to 238.

For Spanish: Eighteen semester hours of work must be completed in courses numbered above 100 and must include: (a) six semester hours of linguistic training (courses 173-174, 260); (b) six semester hours of literature in the courses numbered above 200.

RELATED WORK

Majors in Romance Languages will normally take the prescribed amount of related work in the following fields: (1) other foreign languages and literature; (2) aesthetics; (3) history and appreciation courses in music and art; (4) philosophy; (5) general psychology; (6) history; (7) general sociology and anthropology.

Majors in Spanish may take a maximum of six hours of Spanish American political science or economics if taken with or after Spanish 155-156.

RUSSIAN

ASSISTANT PROFESSOR WINNER

51-52. INTRODUCTION TO THE RUSSIAN LANGUAGE.—Open to freshmen with the approval of the Dean. 6 s.h. (w) ASSISTANT PROFESSOR WINNER

53-54. INTERMEDIATE RUSSIAN LANGUAGE.—Prerequisite: Russian 51-52 or equivalent. 6 s.h. (E) ASSISTANT PROFESSOR WINNER

63-64. INTRODUCTION TO SCIENTIFIC AND MEDICAL RUSSIAN.—Introduction to the Russian language as used in the various contemporary sciences. Prerequisite: Russian 51-52 or equivalent. 6 s.h. (w) ASSISTANT PROFESSOR WINNER
[Not offered in 1955-56]

101, 102. RUSSIAN CULTURE AND LITERATURE THROUGH THE NINETEENTH CENTURY.—After a brief survey from earliest times through eighteenth-century classicism, enlightenment, and sentimentalism, attention is focused on the literature of the nineteenth century, and the development of romanticism and of the realistic school. Special attention is given to the works of Pushkin, Lermontov, Gogol, Goncharov, Turgenev, Tolstoi, Dostoevski, and Gorki. Readings are assigned in English translation. 6 s.h. (w) ASSISTANT PROFESSOR WINNER

103. AN INTRODUCTION TO SOVIET LITERATURE AND CULTURE.—An analysis of the development of Russian literature and culture since the Bolshevik revolution and the effect of Soviet policy on the literary production of the time. A survey of the important literary currents from Gorki and Mayakovski through Sholokhov. Lectures and class discussion. Readings will be assigned in English translation. 3 s.h. (E) ASSISTANT PROFESSOR WINNER
[Not offered in 1955-56]

105. HISTORY OF THE RUSSIAN THEATRE AND DRAMA.—A discussion of the most significant stages of Russian dramatic art from the earliest primitive harvest ceremonies to the development of theatrical realism and naturalism in the end of the nineteenth century and the development of the dramatic arts in the Soviet Union is combined with a study of the development of the Russian theatre, with special emphasis on such figures as Stanislavski, Meierholdt, Vakhtangov, etc. Class discussion and visual demonstrations. Readings are assigned in English translation. 3 s.h. (E) ASSISTANT PROFESSOR WINNER

112. **PUSHKIN AND THE BIRTH OF RUSSIAN REALISM.**—A study of Pushkin and his contemporaries from the point of view of their relationship to the development of the Russian romantic movement and to the emergence of an independent Russian realistic approach to literature. An analysis of the influence of Western literary figures, particularly Byron, on the development of Russian letters of the early nineteenth century. Readings are assigned in English translation. Prerequisite: Russian 101 or consent of the instructor. 3 s.h. (E)

ASSISTANT PROFESSOR WINNER

SOCIOLOGY AND ANTHROPOLOGY

PROFESSOR JENSEN, CHAIRMAN; ASSOCIATE PROFESSOR SCHETTLER, DIRECTOR OF UNDERGRADUATE STUDIES, AND SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS HART AND THOMPSON; ASSOCIATE PROFESSOR LABARRE; ASSISTANT PROFESSORS WHITRIDGE AND ROY; MESSRS. HOWELL, MCNURLEN AND TUMBLIN

91-92. **GENERAL SOCIOLOGY.**—An introduction to the scientific study of social life; its origin, evolution and organization as illustrated in the study of a number of concrete social problems. 6 s.h. (E & W)

PROFESSOR JENSEN; ASSOCIATE PROFESSOR SCHETTLER;
ASSISTANT PROFESSORS ROY AND WHITRIDGE;
MESSRS. HOWELL, MCNURLEN AND TUMBLIN

101. **GENERAL SOCIOLOGY.**—A more intensive version of course 91-92, which enables the student to complete the introductory course in sociology in one semester. 5 s.h. (W)

ASSISTANT PROFESSOR ROY

I. ANTHROPOLOGY

93. **GENERAL ANTHROPOLOGY.**—Origins and distribution of the races of mankind; a survey of human palaeontology and human biology, world archaeology, prehistory and languages; and the origins of the family, primitive economics, arts, social and political organization. Special attention is given to primitive peoples. 3 s.h. (W)

ASSOCIATE PROFESSOR LABARRE

94. **CULTURAL ANTHROPOLOGY.**—A study of the dynamics of culture, the causal factors, functions, integration and disintegration, diffusion, growth and change of cultures. Emphasis is upon the simpler societies. 3 s.h. (W)

ASSOCIATE PROFESSOR LABARRE

212. **PRIMITIVE RELIGION.**—The ethnography, the social functions and the socio-psychological meanings of religion in primitive societies. Prerequisite: course 91-92, or 101, or 93 or 94. 3 s.h. (W)

ASSOCIATE PROFESSOR LABARRE

213. **PERSONALITY AND SOCIETY.**—The sociology and social psychology of human personality, its origins in the primary group, its nature and varieties, and its integrations into secondary group institutions, with emphasis upon the normal personality and its adjustments in our society and to our culture. Prerequisite: course 91-92, or 101, or 93 or 94. 3 s.h. (W)

ASSOCIATE PROFESSOR LABARRE

[Admission only by consultation with the instructor.]

214. **PERSONALITY AND CULTURE.**—The influence of culture patterns and social institutions on character structure, socialization of the individual and the dynamics of human personality. Comparative anthropological materials will be drawn upon. Prerequisite: course 213. 3 s.h. (W)

ASSOCIATE PROFESSOR LABARRE

[Admission only by consultation with the instructor.]

215. **THE AMERICAN INDIAN.**—A comprehensive survey of the Indians of North and South America, including a study of origins and prehistory, archaeology, physical anthropology, languages, material culture, social and political organization, economics and religion, discussed in terms of the "culture area" concept, and illustrated with the ethnography of a characteristic tribe from each area. 3 s.h. (W)

ASSOCIATE PROFESSOR LABARRE

[Not offered in 1955-56]

217. **THE PEOPLES OF AFRICA, ASIA, AND OCEANIA.**—A comprehensive survey of non-European peoples of the Old World, covering available prehistory, archaeology, racial affiliations, languages, material culture, social and political organization, economics and religion, discussed in terms of the "cultural area" concept, and illustrated with the ethnography of a characteristic tribe from each area. 3 s.h. (w) ASSOCIATE PROFESSOR LABARRE

II. COMMUNITY, RACE AND CULTURE

(Courses 91-92, or 101, or 93, or 94 prerequisite for all courses.)

133. **SOCIOLOGY OF THE SOUTH.**—The developing regional organization of the world economy studied with especial reference to Southern life and problems. A survey of the composition and distribution of population, races and race relations; economic conditions underlying population, race factors and culture of the South. Primary emphasis is upon social change and its control. 3 s.h. (w)

PROFESSOR THOMPSON

134. **HUMAN ECOLOGY.**—A study of the human community in its competitive and cooperative aspects. 3 s.h. (w)
[Not offered in 1955-56]

PROFESSOR THOMPSON

136. **HUMAN MIGRATION.**—A study of mankind in motion, including a consideration of the nature of migration, types of migration and settlement, and problems of migratory contacts. 3 s.h. (w)
[Not offered in 1955-56]

PROFESSOR THOMPSON

137. **THE NEGRO IN AMERICA.**—A study of the history and changing status of the Negro regarded as a symbol and protagonist of minority groups in America and elsewhere. 3 s.h. (w)

PROFESSOR THOMPSON

233. **RURAL SOCIOLOGY.**—The sociology of the land; peasant and folk societies and cultures; patterns of rural settlement like the farm, the plantation, the ranch and others; rural personality types; the changing character of rural life; rural problems. 3 s.h. (w)

PROFESSOR THOMPSON

235. **URBAN SOCIOLOGY.**—A study of the city and civilization, the newspaper, the social survey, the slum and housing, neighborhoods and natural areas, urban institutions, urban problems, and city planning. 3 s.h. (w)

PROFESSOR THOMPSON

237. **COMMUNITY AND SOCIETY.**—This course seeks to provide a frame of reference for the analysis and ordering of facts pertaining to the diverse cultures of the world, the State, the world community, the Great Society, news, mass behavior, social problems, races and classes. 3 s.h. (w)

PROFESSOR THOMPSON

238. **RACE AND CULTURE.**—A study of the nature of race and of the relationships and problems of race. 3 s.h. (w)

PROFESSOR THOMPSON

III. COLLECTIVE BEHAVIOR

(Courses 91-92, or 101, or 93 or 94 prerequisite for all courses.)

142. **THE SOCIOLOGY OF DISCUSSION.**—A course designed to develop practical social skills in intellectual cooperation. In the light of sociological theory of intellectual conflict, competition and cooperation, practice will be provided in the group solution of problems through committees, conferences and forums, and in the discussion processes whereby cooperation can be substituted for social antagonism. Prerequisites: either Sociology 91, 101, or 93, or 94 and six hours to be selected from history, political science, Economics 105 and 155, and Education 115 and 176. Enrollment limited to a maximum of 30. 3 s.h. (w)

PROFESSOR HART

149. **INTRODUCTION TO CHILD WELFARE.**—A study of heredity and environment as factors in personality development; infant conservation; welfare responsibilities of the school, emphasizing the physical and mental well-being of the child, play, and compulsory and industrial education; child labor, diagnosis and treatment of delinquency; care of the dependent and neglected child; child-caring agencies, public and private; and a community program of child welfare. 3 s.h. (E)

PROFESSOR HART

243. **SOCIAL ATTITUDES AND COLLECTIVE BEHAVIOR.**—Study of attitudes as products of social interaction; organization of attitudes into personal behavior patterns; expression of social attitudes in social, political and industrial groups; social unrest and the behavior of crowds and mobs; analysis of social movements, strikes, revolutions, and other group organizations. 3 s.h. (w)

ASSOCIATE PROFESSOR SCHEITTLER

246. **PUBLIC OPINION AND PROPAGANDA.**—Nature and development of public opinion; relation to attitude, biases, stereotypes and controversial issues; role of leaders, pressure groups and minority groups; use of radio, press, motion picture and graphic arts; propaganda and censorship; measurements of public opinion. 3 s.h. (w)

ASSOCIATE PROFESSOR SCHEITTLER

250. **MARRIAGE AND THE FAMILY.**—An analysis of contemporary marriage and family experience with emphasis on its functions, problems, resources and values. Not open to students who have received credit for Religion 170. 3 s.h. (w)

PROFESSOR HART

IV. SOCIAL ORGANIZATION AND DISORGANIZATION

(Courses 91-92, or 101, or 93, or 94 prerequisite for all courses.)

153. **THE FIELDS OF SOCIAL WORK.**—A non-professional course, designed to acquaint the student with the types of problems existing in both rural and urban communities which can be dealt with in a remedial and preventive way; how they arise in the reciprocal interaction of personality and culture, what their effects are in terms of personal and social disorganization, how communities are organized to deal with them, and social agencies which have been developed to deal with problems of each type, together with an evaluation of effectiveness of the techniques employed. 3 s.h. (E)

ASSISTANT PROFESSOR WHITRIDGE

157. **SOCIAL CHANGE AND SOCIAL CONTROL.**—Basic nature of inventions as related to ideological and material factors; role of the inventor, reformer, and non-conformist; mobility, diversification and individualism as by-products of social change; techniques of social control in the family, school, church, industry and government; social planning and leadership in a dynamic society. 3 s.h. (w)

ASSOCIATE PROFESSOR SCHEITTLER

158. **SOCIOLOGY OF THE PROFESSIONS AND OCCUPATIONS.**—Analysis of the professional and occupational structure of the American economy; shifts and trends in occupations and professions for men, women and minority groups; social and economic characteristics of occupational and professional groups; factors in the selection of a profession or occupation; sources of information about occupations and professions; measurements of aptitudes, abilities and skills; employer-employee relationships. 3 s.h. (w)

ASSOCIATE PROFESSOR SCHEITTLER

165. **INTRODUCTION TO INDUSTRIAL SOCIOLOGY.**—An analysis and appraisal of the various factors that affect human relations in industry. It will deal with the interpersonal and intergroup relationships within the individual industrial unit which determine its efficiency as an economic and social institution; the social relationships of workers with one another and with management; their influence upon productivity, the relations of the worker toward the job, labor turnover, absenteeism, etc., and the social conditions in the community, housing, family life; recreation, etc., as they affect the social relations within the industrial community. 3 s.h. (w)

ASSISTANT PROFESSOR ROY

166. **INDUSTRY AND SOCIETY.**—A study of industrial institutions in their interrelationships with other forms of social behavior in the broad cultural setting of western civilization. The emphasis in this course will be on an examination of the influence of changes in the technical and social organization of industry upon community organization, social stratification, social mobility, social interaction, and personality development. Attention will center upon analysis of specific social problems resulting from the impact of industrial change. 3 s.h. (w)

ASSISTANT PROFESSOR ROY

262. **EDUCATION AND THE CULTURAL PROCESS.**—A study of education (1) as carried on traditionally among preliterate and folk peoples, and (2) as it becomes a problem in racially and culturally complex societies like that of the United States. 3 s.h. (w) PROFESSOR THOMPSON
[Not offered in 1955-56]

271. **SOCIAL PATHOLOGY.**—A study of the causes, extent, significance, and constructive treatment of the principal forms of pathology in modern society; poverty, physical defectiveness, malnutrition, mental deficiency, mental disease, undirected leisure activities and unstandardized commercial recreation, alcoholism, prostitution, vagrancy, and delinquency. 3 s.h. (E) PROFESSOR JENSEN

273. **SPECIAL PROBLEMS IN SOCIAL PATHOLOGY.**—Research projects in social and personal disorganization, limited to advanced students with the approval of the instructor. 1 to 3 s.h. *each semester*. (w) PROFESSOR JENSEN

276. **CRIMINOLOGY.**—A study of the original tendencies of man and the problem of socializing these tendencies; the relations of physical and mental defectiveness and untoward influence in the home and neighborhood to crime; the development of criminological theory and procedure, emphasizing penal and reform methods, and especially modern methods of social treatment and prevention of crime. 3 s.h. (E) PROFESSOR JENSEN

277. **JUVENILE DELINQUENCY.**—An intensive study of current research findings as to the nature, causes, extent and distribution of juvenile delinquency; individual and institutional methods of treatment and prevention; diagnostic clinics, juvenile courts and probation, training schools, coordinating councils and preventive agencies. 3 s.h.
[Not offered in 1955-56]

V. SOCIAL THEORY

(Course 91-92, or 101, or 93 or 94 prerequisite for all courses.)

286. **SOCIAL ETHICS.**—A study of sociological fundamentals underlying ethics, including the controversy between materialistic and idealistic social thinkers, the nature of personalities and of social organization, the nature of social values, types of social interaction and their effects upon general social values, underlying principles and facts of social change, and the bearings of all these upon certain social problems. 3 s.h. (w) PROFESSOR HART

288. **CONTEMPORARY PROBLEMS IN CULTURAL LAG.**—An exploration of such sociological problems as social evolution, cultural lag, conflict, accommodation, leadership, and social reform, in relation to the crisis of civilization, precipitated by the development of the atomic bomb and by kindred discoveries and inventions. 3 s.h. (w) PROFESSOR HART

VI. METHODS OF SOCIAL RESEARCH

(Course 91-92, or 101, or 93 or 94 prerequisite for all courses.)

191. **PRINCIPLES OF SOCIAL CASE INVESTIGATION.**—A non-professional course designed to acquaint the student with the basic research techniques employed in the case study of the interrelationships of personality and culture in various fields of sociological and anthropological interest. 3 s.h. (E)
ASSISTANT PROFESSOR WHITRIDGE

193. **BASIC STATISTICAL METHODS IN SOCIOLOGY.**—The processes of definition, classification, measurement, tabulation, association, correlation, comparison of averages and of percentages, prediction, preparation and interpretation of tables and charts, as applied to and illustrated by sociological data. One lecture, one recitation and three laboratory hours. 3 s.h. (w) PROFESSOR HART

292. **STATISTICAL TECHNIQUES IN SOCIOLOGY.**—Intended for graduate students, and for undergraduates who are ready to undertake original statistical research projects. 3 s.h. (w) PROFESSOR HART

293. SPECIAL PROBLEMS IN SOCIAL STATISTICS.—Applications of statistical techniques to specific research topics. Limited to advanced students with permission of the instructor. 1 to 3 s.h. each semester. (w) PROFESSOR HART

DEPARTMENTAL MAJOR

Prerequisite: Sociology 91-92 or 101.

Major Requirements: Eighteen semester hours of work in the Department in addition to Sociology 91-92 or 101, including at least six semester hours in Senior-Graduate courses.

Related Work: A minimum of eighteen semester hours, at least twelve of which are normally chosen from two of the following fields: economics, education, history, political science and psychology. Additional courses in health and physical education, philosophy and religion may also be elected as related work when indicated by the educational requirements of the student and approved by the departmental adviser. But not more than six hours work in courses primarily open to Freshmen can be counted toward this requirement.

ZOOLOGY

PROFESSOR GRAY, CHAIRMAN; ASSOCIATE PROFESSOR ROBERTS, DIRECTOR OF UNDERGRADUATE STUDIES; ASSOCIATE PROFESSOR HUNTER, SUPERVISOR OF FRESHMAN INSTRUCTION; PROFESSORS BOOKHOUT, SCHMIDT-NIELSEN AND WILBUR; ASSISTANT PROFESSORS BAILEY, HORN, NACE, ODUM, SANDEEN AND VERNBURG; DRS. JACOBS, STRASBURG AND WARD

1. ANIMAL BIOLOGY.—The principles of biology as applied to animals. 4 s.h. (w & e) ASSOCIATE PROFESSORS HUNTER AND ROBERTS AND STAFF

2. GENERAL ZOOLOGY.—A brief survey of the animal kingdom. Prerequisite: Zoology 1. 4 s.h. (w & e) PROFESSOR BOOKHOUT AND ASSOCIATE PROFESSOR HUNTER AND STAFF

53. COMPARATIVE VERTEBRATE ANATOMY.—A study of the anatomy and evolution of the organ systems of vertebrates. Prerequisites: Zoology 1, 2. 4 s.h. (w) ASSISTANT PROFESSOR HORN AND STAFF

71. HEREDITY AND EUGENICS.—Effects of environment and heredity upon the individual and populations; interpretation of human genetic histories. Prerequisite: one year of zoology. 3 s.h. (w) DR. JACOBS

92. GENERAL EMBRYOLOGY.—A study of the fundamental principles of embryology as illustrated in the frog, chick and mammal. Prerequisite: Zoology 53. 4 s.h. (w) ASSISTANT PROFESSOR NACE AND STAFF

109. EVOLUTION.—The facts and theories of organic evolution. Prerequisite: two years of zoology. 3 s.h. (w) ASSISTANT PROFESSOR BAILEY

110. INTRODUCTION TO GENETICS.—The principles and practical applications of genetics as applied to animals. (Primarily for majors in zoology.) Prerequisite: two years of zoology or consent of instructor. 4 s.h. (w) DR. JACOBS

120. ORNITHOLOGY.—Lectures, laboratory and field trips dealing with the classification, adaptations, and natural history of birds. Prerequisite: one year of zoology. Zoology 53 recommended. 4 s.h. (w) ASSISTANT PROFESSOR BAILEY

151. PRINCIPLES OF PHYSIOLOGY.—An introductory survey of physiological functions. Prerequisites: At least a year of zoology and a year of chemistry. 4 s.h. (w) PROFESSORS SCHMIDT-NIELSEN AND WILBUR

156. VERTEBRATE HISTOLOGY.—The microscopic structure of normal tissues and organs of the vertebrate body. Training will be given in the preparation of material for microscopic study. Prerequisite: Zoology 53. 4 s.h. (w) ASSOCIATE PROFESSOR ROBERTS

161. ANIMAL PARASITES.—An introductory course dealing with biological principles involved in parasitism of animals including man. Prerequisite: one year of zoology. 4 s.h. (E)
ASSOCIATE PROFESSOR HUNTER

193. FUNDAMENTALS OF ZOOLOGY.—The principles involved in the study of structure, function, ecology, genetics, classification, and evolution of animals. An elementary course without laboratory designed for senior students. Not open to students who have had previous courses in zoology. 3 s.h. (W)
ASSISTANT PROFESSOR VERNBERG

196. SEMINAR: CURRENT DEVELOPMENTS IN ZOOLOGY.—Prerequisites: Zoology 53 and 92. Open only to seniors. 2 s.h. (W)
STAFF

FOR SENIORS AND GRADUATES

204. ADVANCED PARASITOLOGY.—Lectures, readings, and laboratory work, dealing with practical and theoretical problems of classification, morphology and host relations of animal parasites. Offered in alternate years. Prerequisite: Zoology 161. 4 s.h. (E)
ASSOCIATE PROFESSOR HUNTER

216. LIMNOLOGY.—A study of lakes, streams, and ponds including their classification, photosynthetic productivity, geochemistry, physical patterns, pollution, fisheries, and significance as microcosms. Lectures, field trips, laboratory work. Prerequisites: Chemistry 1, 2, and a year of biology. 4 s.h. (W)
ASSISTANT PROFESSOR ODUM

219, 220. SPECIAL PROBLEMS.—Senior majors who have had proper training may be permitted to carry on special work. Permission must be obtained from the Director of Undergraduate Studies and the instructor under whom the student wishes to work. Not more than 4 s.h. (W & E)
STAFF

222. ENTOMOLOGY.—A study of anatomy, physiology, embryology, and classification of insects. Offered in alternate years. Prerequisite: One year of zoology. 4 s.h. (W)
PROFESSOR GRAY

224. VERTEBRATE ZOOLOGY.—A study of life histories, adaptations, ecology and classification of vertebrate animals. Offered in alternate years. Prerequisite: Zoology 53. 4 s.h. (W)
PROFESSOR GRAY

238. SYSTEMATIC ZOOLOGY.—The fundamental theory and practice involved in the collection, identification, and classification of animals. Offered in alternate years. Prerequisites: Zoology 1, 2. 4 s.h. (W)
ASSISTANT PROFESSOR BAILEY

252. COMPARATIVE PHYSIOLOGY.—The physiological mechanisms of animals studied on a comparative basis. Prerequisite: Zoology 151 or equivalent. 4 s.h. (W)
PROFESSOR SCHMIDT-NIELSEN

253. ADVANCED VERTEBRATE MORPHOLOGY.—Lectures, reports, and reading assignments in the comparative morphology of the vertebrates, with particular emphasis on theories concerning the interrelationships of vertebrates and the origin of certain vertebrate structures. Advanced laboratory study of structure in selected groups of vertebrates. Offered in alternate years. Prerequisites: Zoology 53, 92. 4 s.h. (W)
ASSISTANT PROFESSOR HORN

271. CELLULAR PHYSIOLOGY.—The physiological processes of living matter approached through studies of cells and tissues. Prerequisites: two years of biology and at least one year of chemistry. 4 s.h. (W)
PROFESSOR WILBUR

274. INVERTEBRATE ZOOLOGY.—A study of structure, functions, and habits of invertebrate animals under normal and experimental conditions. Field trips will be made to study, collect, and classify animals in their natural habitats. Offered in alternate years. Prerequisites: Zoology 1, 2. 4 s.h. (W)
PROFESSOR BOOKHOUT

276. PROTOZOOLOGY.—The morphology, physiology, taxonomy, and culture of protozoa. Offered in alternate years. Prerequisites: Zoology 1, 2. 4 s.h. (W)
PROFESSOR BOOKHOUT

278. INVERTEBRATE EMBRYOLOGY.—Lectures, readings and laboratory work dealing with rearing, life history and development of invertebrates. Offered in alternate years. Prerequisite: Zoology 92. 4 s.h. (w) PROFESSOR BOOKHOUT

For summer courses in Marine Biology consult the Bulletin of the Duke University Marine Laboratory.

DEPARTMENTAL MAJOR

Prerequisites: Zoology 1 and 2.

Major Requirements (for both A.B. and B.S. degrees): A minimum of 24 s.h. of zoology including courses 53, 92, 151 or 271.

Related Work: At least one year of chemistry; additional work usually chosen from courses in botany, chemistry, geology, mathematics and physics.

Language Requirements: For A.B. degree: Preferably German or French. For B.S. degree: Both German and French.

Courses of Instruction College of Engineering



CIVIL ENGINEERING

ASSOCIATE PROFESSOR WILLIAMS, ACTING CHAIRMAN; ASSOCIATE PROFESSOR PALMER;
ASSISTANT PROFESSORS ARGES, GARDNER, HAINES, LEWIS, AND STOTTLEMYER;
MESSRS. BROWN, PETERSON, PIERRY, AND THARP

61. PLANE SURVEYING.—Use of instruments; transit, stadia and compass surveying; determination of meridian by observation on Polaris; differential and profile leveling; setting grade stakes; calculation of bearings, latitudes, departures and areas; methods of plotting; survey and plot of portions of campus by stadia, and transit and tape; care and adjustment of instruments. Prerequisites: G.E. 1 and Math 6. 4 s.h. (w) ASSISTANT PROFESSOR ARGES AND MR. THARP

62. ADVANCED SURVEYING.—Simple triangulation; topographic surveying using stadia and plane table; laying out and division of land; public land system; calculations; grading plans and quantities; determination of azimuth by H. O. 211. Prerequisite: C.E. 61. 4 s.h. (w) ASSISTANT PROFESSOR ARGES AND MR. THARP

108. ADVANCED STRENGTH OF MATERIALS.—Applications of Mohr's circle, deflections, and energy of strain to advanced problems. Prerequisite: G.E. 107. 3 s.h. (w) ASSOCIATE PROFESSOR WILLIAMS
[Offered only upon sufficient demand; enrollment limited.]

S110. PLANE SURVEYING.—The equivalent of C.E. 61 given especially for students in forestry. See *Bulletin of Summer Session*. 4 s.h. (w) MR. THARP

113. ROUTE SURVEYING.—Thorough drill in the calculation and laying out of simple, compound, and easement curves, widening of curves; vertical curves; setting slope stakes; ordinary earthwork computations and mass diagrams. Prerequisite: C.E. 61. 3 s.h. (w) ASSOCIATE PROFESSOR WILLIAMS

116. HIGHWAY ENGINEERING.—Location, design, construction and maintenance of highways and city streets; soil stabilization; traffic studies; economics of planning and design. Prerequisites: C.E. 113, C.E. 135. 3 s.h. (w) ASSOCIATE PROFESSOR WILLIAMS

118. MATERIALS OF ENGINEERING.—Study and testing of materials commonly used in civil engineering. The content of course G.E. 109 and standard tests to determine significant physical properties of cementing materials and aggregates. The design and proportioning of concrete mixtures. Prerequisite: G.E. 107. 3 s.h. (w) ASSISTANT PROFESSORS ARGES AND GARDNER

121. HYDROLOGY.—Fundamentals of meteorology; precipitation; evaporation. Ground water development. Stream flow and stream gaging. Hydrograph analysis. Flood control. Field trips to be arranged. Prerequisite: G.E. 128. 3 s.h. (w) ASSISTANT PROFESSOR STOTTLEMYER
[Offered only upon sufficient demand; enrollment limited.]

123. WATER SUPPLY AND SEWERAGE.—Statistical analysis of rainfall and run-off records; population estimation; analysis of the yield of watersheds and storage requirement; design of water distribution systems; design of sanitary and storm sewerage systems. Prerequisite: G.E. 128. 4 s.h. (w) ASSISTANT PROFESSOR STOTTLEMYER

124. WATER PURIFICATION AND SEWAGE TREATMENT.—Chemical and bacteriological analysis of water and sewage effluents; design of water purification treatment systems; design of sewage treatment plans. Prerequisite: C.E. 123. 3 s.h. (w) MR. BROWN

128. INDUSTRIAL WATER SUPPLIES.—Water quality for industrial uses. Analytical techniques and interpretation of results. Boiler feed water requirements; softening, ion exchange; deaeration, priming; foaming; corrosion; embrittlement. Control of treatment processes. Prerequisite: Chemistry 1-2. 3 s.h. (w)
[Not offered 1955-56]

129-130. ELEMENTARY STRUCTURES.—Stresses in beams and trusses for fixed and moving loads. Deflection of beams and trusses. Design of tension, compression, and flexural members; connections; and plate girders. Design of reinforced concrete beams, slabs, columns, footings, and retaining walls. (For students not majoring in structural engineering.) Prerequisite: G.E. 107. 6 s.h. (w)

ASSOCIATE PROFESSOR PALMER

[Offered only upon sufficient demand; enrollment limited.]

131. STRUCTURES.—ANALYSIS AND ELEMENTARY DESIGN.—Stresses in roofs, parallel and inclined chord bridges, including sub-divided panels, by algebraic and graphic methods under all conditions of loading; shear and moments in frames and bents; influence lines: Williot diagram. Structural drafting, details in steel and timber; methods of fabrication and erection. Prerequisites: G.E. 107. 5 s.h. (w)

ASSOCIATE PROFESSOR PALMER AND ASSISTANT PROFESSOR STOTTELMYER

132. STRUCTURES.—DESIGN.—Tension, compression, flexural members, end posts, eccentric connections, unsymmetrical bending; riveted and welded plate girders; trusses and office building frames; wind analysis. Design and detail drawing. Prerequisite: C.E. 131. 5 s.h. (w)

ASSOCIATE PROFESSOR PALMER AND
ASSISTANT PROFESSOR STOTTELMYER

133. REINFORCED CONCRETE.—Theory and design of reinforced concrete beams, slabs, and columns including eccentric loads; footings; retaining walls. Prerequisite: G.E. 107. 4 s.h. (w)

ASSOCIATE PROFESSOR PALMER

135. SOIL MECHANICS.—Identification and classification; flow nets; frost action; stability of foundations, cuts and embankments, and retaining walls; settlement. Laboratory includes identification, permeability, shear, unconfined compression, consolidation and compaction tests. Prerequisite: G.E. 107. 3 s.h. (w)

ASSISTANT PROFESSOR GARDNER

137-138. SEMINAR.—Students are required to make reports and to talk on current engineering literature or on such other topics as may be assigned. 2 s.h. (w)

ASSOCIATE PROFESSOR WILLIAMS AND STAFF

[Offered only upon sufficient demand; enrollment limited.]

140. INDETERMINATE STRUCTURES.—Application of least work, slope deflection, moment distribution, and column analogy. Analytic, graphic, and experimental methods are used. Prerequisites: C.E. 131, C.E. 133. 3 s.h. (w)

ASSOCIATE PROFESSOR PALMER

142. HYDRAULIC ENGINEERING.—Static and dynamical principles of fluids applied to specific engineering problems. Effects of gravity, viscosity, compressibility, and surface tension on fluid motion in closed conduits and open channels; surface and form resistance; dimensional analysis and theory of models. Non-uniform flow in open channels. Hydraulic jump, backwater curves. Hydraulic problems of flood control, flood routing. Dam design. Prerequisite: G.E. 128 or M.E. 105. 3 s.h. (w)

ASSOCIATE PROFESSOR WILLIAMS

[Offered only upon sufficient demand; enrollment limited.]

143-144. PROJECTS IN CIVIL ENGINEERING.—This course may be assigned by the Chairman of the Department to certain seniors who have shown an aptitude for research in one distinct field of civil engineering, in which case it may be substituted for certain general civil engineering courses. 2-6 s.h. (w) STAFF

146. CIVIL ENGINEERING PROBLEMS.—Professional aspects of civil engineering practice. Selected problems in analysis and design, considerations of engineering economy, contracts, specifications, and ethics. Seniors only. 2-3 s.h.

ASSOCIATE PROFESSOR PALMER

ELECTRICAL ENGINEERING

PROFESSOR SEELEY, CHAIRMAN; ASSOCIATE PROFESSOR VAIL, EXECUTIVE OFFICER; ASSOCIATE PROFESSORS EGERTON, KRAYBILL AND MEIER; ASSISTANT PROFESSORS KOENIG AND OWEN; MESSRS. BOWERS AND THURSTONE

51. SURVEY OF ELECTRICAL ENGINEERING.—A course designed to give the student a general survey of the engineering profession, to define the scope of activities of the electrical engineer, and to provide an introduction to engineering problems. One two-hour computation. 1 s.h. (w) ASSOCIATE PROFESSOR KRAYBILL

52. ELECTRIC AND MAGNETIC FIELDS.—An introductory course covering a mathematical and physical analysis of energy relations in electrostatic and magnetostatic fields; resistance, capacitance and inductance of systems of conductors; systems of electric and magnetic units. Two recitations and one two-hour computation. Prerequisites: E.E. 51, Mathematics 52. Physics 52, Mathematics 53 concurrently. 3 s.h. (w) ASSOCIATE PROFESSOR VAIL AND MR. BOWERS

101-102. CIRCUITS IN ELECTRICAL ENGINEERING.—A two-semester course covering methods of electric and magnetic circuit analysis applicable in all branches of electrical engineering; alternating and direct currents; the algebra of vectors and complex quantities; networks; nonsinusoidal waves; coupled circuits; transients; polyphase circuits; complex frequency. Prerequisite: E.E. 52. E.E. 107-108 and Mathematics 131 concurrently. 6 s.h. (w) ASSOCIATE PROFESSOR VAIL

105. ELECTRICAL MEASUREMENTS.—A course covering direct-current and low-frequency alternating-current measurements; the theory, calibration, and use of laboratory standards and of apparatus for the measurement of potential, current, power, and energy; and audio-frequency determination of impedance. Three class sessions and one three-hour laboratory. Prerequisite: E.E. 52. Mathematics 131 and E.E. 101 concurrently. 4 s.h. ASSISTANT PROFESSOR OWEN AND MR. THURSTONE

106. ELECTRON TUBES AND CIRCUITS.—A course covering electronic emission, static and dynamic tube characteristics, rectification, glow-discharge tubes, amplifiers, oscillators, and other typical circuits. Three class sessions and one three-hour laboratory. Prerequisites: E.E. 101, E.E. 105, E.E. 107. E.E. 102 and E.E. 108 concurrently. 4 s.h. (w) ASSISTANT PROFESSOR OWEN AND MR. THURSTONE

107-108. CIRCUITS LABORATORY.—A two-semester course designed to provide instruction in electrical laboratory techniques and in the preparation of engineering reports, and to provide experimental verification of the theory of course 101-102, with which it should be taken concurrently. One three-hour laboratory. 2 s.h. (w) ASSOCIATE PROFESSOR VAIL AND MR. BOWERS

123. PRINCIPLES OF ELECTRIC CIRCUITS.—A course designed especially for students in other branches of engineering, covering fundamental electrical units and both alternating and direct-current circuits. Three class sessions and one three-hour laboratory. Prerequisites: Mathematics 52 and Physics 52. 4 s.h. (w)

ASSOCIATE PROFESSORS KRAYBILL AND EGERTON; ASSISTANT PROFESSOR KOENIG; MR. THURSTONE

124. PRINCIPLES OF ELECTRIC MACHINERY.—A course designed especially for students in other branches of engineering, covering the application of the principles of course E.E. 123 to alternating and direct-current machinery and associated apparatus. Three class sessions and one three-hour laboratory. Prerequisite: E.E. 123. 4 s.h. (w) ASSOCIATE PROFESSORS KRAYBILL AND EGERTON; ASSISTANT PROFESSOR KOENIG; MR. THURSTONE

148. **DIRECT-CURRENT MACHINERY.**—A study of the principles which underlie the design and operation of all types of direct-current generators, motors, and associated apparatus. Prerequisites: E.E. 101 and E.E. 107. E.E. 102 and E.E. 108 concurrently. 3 s.h. (w) ASSOCIATE PROFESSOR MEIER AND MR. BOWERS

158. **ELECTRIC-POWER SYSTEMS.**—A course providing a brief survey of the electric-power industry followed by a consideration of the economic and engineering features of power plant location and design, and by a study of the apparatus utilized in the generation, transmission and distribution of electric power. Prerequisites: E.E. 148, M.E. 104, and permission of instructor. E.E. 257-258 concurrently. Elective for electrical majors. 3 s.h. (w) PROFESSOR SEELEY
[Offered only upon sufficient demand; enrollment limited.]

159. **TRANSMISSION.**—A development of the theory underlying the transmission of electric energy over conductors at both power and communication frequencies. Two class sessions and one two-hour computation. Prerequisites: E.E. 101-102, E.E. 105, E.E. 106, Mathematics 131. 3 s.h. (w) PROFESSOR SEELEY

161. **HIGH-VOLTAGE PHENOMENA.**—An introductory study of high-voltage phenomena and their engineering applications; behavior of gaps and insulators upon application of power-frequency and impulse voltages; corona; properties of insulating materials; high-voltage measurements; elements of high-voltage design. Two class sessions and one three-hour laboratory. Prerequisites: E.E. 101-102, E.E. 105, E.E. 106, and permission of instructor. Elective for electrical majors. 3 s.h. (w) ASSOCIATE PROFESSOR VAIL
[Offered only upon sufficient demand; enrollment limited.]

163-164. **ELECTRIC MACHINERY LABORATORY.**—A study of the technique of testing electric machines and a thorough analysis of their performance. Concurrent with E.E. 257-258. One three-hour session, for two semesters. 2 s.h. (w) ASSOCIATE PROFESSOR MEIER AND MR. BOWERS

165-166. **ELECTRICAL ENGINEERING SEMINAR.**—A course in which seniors are required to present oral reports and dissertations on material appearing in current engineering literature. Juniors may participate, but without credit. 2 s.h. (w) STAFF

171. **FUNDAMENTALS OF ILLUMINATION.**—A course designed to familiarize the student with some of the factors that influence seeing; to provide a working knowledge of lighting language, sources, and measuring techniques; and to acquaint the student with the basic factors involved in recommended lighting practice. Two class sessions and one two-hour computation. Prerequisites: E.E. 101-102 or E.E. 123, and permission of instructor. Elective. 3 s.h. (w) ASSOCIATE PROFESSOR KRAYBILL
[Offered only upon sufficient demand; enrollment limited.]

173-174. **PROJECTS IN ELECTRICAL ENGINEERING.**—A course which may be undertaken only by seniors who show special aptitude, or who may have had previous experience directly related to the proposed project. The consent of the Chairman of the Department must be obtained before registering. Elective for electrical majors. 3-6 s.h. (w) STAFF
[Offered only upon sufficient demand; enrollment limited.]

180. **RADIO-FREQUENCY TRANSMISSION AND PROPAGATION.**—Theory and application of transmission and propagation at high and ultra-high frequencies; impedance-matching elements; coupling devices; cavity resonators; wave guides and antennas. Two class sessions and one three-hour laboratory. Prerequisites: E.E. 159, E.E. 261, and permission of instructor. E.E. 262 concurrently. Elective for electrical majors. 3 s.h. (w) ASSISTANT PROFESSOR OWEN
[Offered only upon sufficient demand; enrollment limited.]

197. **INDUSTRIAL APPLICATIONS OF ELECTRICAL EQUIPMENT.**—A course of lectures, demonstrations, and recitations designed especially for students in other branches of engineering, dealing with the basic principles of utilization of a wide variety of electrical equipment in industrial practice. Emphasis is on industrial control, motor and generator applications, and electronic devices and applications. Prerequisite: E.E. 124 and permission of instructor. Elective for non-electricals. 3 s.h. (w) ASSOCIATE PROFESSOR MEIER
[Offered only upon sufficient demand; enrollment limited.]

198. INDUSTRIAL CONTROL.—This course, open only to students majoring in electrical engineering, consists of a study of the electromagnetic and electronic control of electric motors in industrial applications. Prerequisites: E.E. 101-102, E.E. 106, E.E. 148, E.E. 257, and permission of the instructor. E.E. 258 concurrently. Elective for electrical majors. 3 s.h. (w)

ASSOCIATE PROFESSOR MEIER

[Offered only upon sufficient demand; enrollment limited.]

199. FEEDBACK CONTROL SYSTEMS.—An introductory study of the theory, analysis, design and operation of servomechanisms, regulators, program controllers, and other feedback controls. Included are electrical, mechanical, hydraulic, aerodynamic, pneumatic, and thermal systems. Steady-state and transient solutions, stability criteria and diagrams, and linear and nonlinear systems are considered. Two class sessions and one three-hour laboratory. Prerequisites: E.E. 101-102, E.E. 106, E.E. 148, and permission of instructor. E.E. 163 and E.E. 257 concurrently. Elective for electrical majors. 3 s.h. (w)

ASSISTANT PROFESSOR KOENIG

[Offered only upon sufficient demand; enrollment limited.]

257-258. ALTERNATING-CURRENT MACHINERY.—A two-semester course dealing with the theory underlying the design, construction, and operation of synchronous generators, transformers, polyphase induction motors, synchronous motors, single-phase motors of all types, and converters and rectifiers. Prerequisites: E.E. 101-102 and E.E. 148. 6 s.h. (w)

ASSOCIATE PROFESSOR MEIER AND MR. BOWERS

261. COMMUNICATION ENGINEERING.—An advanced course dealing with the principles underlying radio communication with special emphasis on the development of methods and procedures for the mathematical analysis of electron tube circuits. Included are vacuum tube amplifiers, oscillators, special electron tube circuits, and introduction to pole and zero studies of response and impedance. Three class sessions and one three-hour laboratory. Prerequisites: E.E. 101-102, E.E. 105, E.E. 106, and Mathematics 131. 4 s.h. (w)

ASSISTANT PROFESSOR OWEN

262. COMMUNICATION ENGINEERING.—The sequel to course E.E. 261. Included are rectifiers and filters, amplitude and frequency modulation, demodulation, microwave tubes, propagation of radio waves, antennas. Three class sessions and one three-hour laboratory. Prerequisite: E.E. 261. 4 s.h. (w)

ASSISTANT PROFESSOR OWEN

263-264. OPERATIONAL CIRCUIT ANALYSIS.—An advanced course covering the mathematical analysis of certain circuits used in electrical engineering, with an introduction to the application of operational calculus to circuit analysis. Prerequisites: E.E. 101-102, Mathematics 131, and permission of instructor. Elective for electrical majors. 6 s.h. (w)

PROFESSOR SEELEY

[Offered only upon sufficient demand; enrollment limited.]

MECHANICAL ENGINEERING

ASSOCIATE PROFESSOR KENYON, ACTING CHAIRMAN; ASSOCIATE PROFESSOR REED; ASSISTANT PROFESSORS ELSEVIER, FULTON, HOLLAND, AND WILBUR; MESSRS. HWANG,

MACCONOCHIE, RABIN, SMITH AND TAYLOR

52. KINETICS-MECHANISM.—Motions of particles. Applications of Newton's Laws of Motion to motions of rigid bodies. Work, energy, impulse, and momentum. Linkages, cams, gears, trains of mechanism. Three recitations, three laboratory hours. Prerequisites: G.E. 2, G.E. 57, Mathematics 52. 4 s.h. (w)

ASSISTANT PROFESSOR HOLLAND, MESSRS. RABIN AND MACCONOCHIE

53. MATERIALS.—Mechanical properties of materials; elementary metallurgy; heat treatment, properties and selection of iron, steel, copper, brass, aluminum, plastics, and other common materials. Lectures and recitations supplemented with films and demonstrations. Prerequisite: Chemistry 2. 3 s.h. (w)

MESSRS. RABIN, MACCONOCHIE AND SMITH

57. PROCESSES.—Lectures and recitations covering casting, forging, welding, bending, rolling, drawing, machining, and other common processes. Interchangeable manufacture, metal fits, production methods. Supplemented with films and demonstrations. 2 s.h. (w) ASSISTANT PROFESSORS ELSEVIER AND HOLLAND, MR. MACCONOCHIE

101-102. **ENGINEERING THERMODYNAMICS.**—A basic study of the laws of thermodynamics, their corollaries, and their use in engineering analysis and design. Properties and processes of gases, vapors, vapor-liquid systems, and mixtures. Cycles. Combustion. Three recitations. Prerequisites: Chemistry 2, Physics 52, Mathematics 52. 6 s.h. (w)
ASSISTANT PROFESSOR WILBUR

103-104. **HEAT POWER ENGINEERING.**—A terminal course in thermodynamics and its engineering applications, for civil and electrical engineering students only. Heat transfer; engines, compressors, boilers, turbines, refrigeration. Three recitations. Prerequisites: Chemistry 2, Physics 52, Mathematics 52. 6 s.h. (w)
ASSOCIATE PROFESSOR KENYON AND ASSISTANT PROFESSOR WILBUR

105. **FLUID MECHANICS.**—Fluid statics and dynamics. Flow through orifices, nozzles, diffusers, weirs, pipes, and around obstacles. General principles of pumps and turbines. Dimensional analysis and dynamic similarity. Three recitations. Prerequisites: Physics 52, Mathematics 52. 3 s.h. (w) ASSOCIATE PROFESSOR KENYON

106. **HEAT TRANSFER.**—Conduction, radiation and convection; heat transfer to boiling liquids or condensing vapors; over-all transfer of heat, steady state or variable flow. Applications to heat power, heating and air conditioning, and refrigeration. Prerequisites: M.E. 101 or 103, M.E. 105 or G.E. 128. M.E. 102 or 104 concurrently. May be elected by limited number of C.E. and E.E. students. 3 s.h. (w)
ASSOCIATE PROFESSOR REED

108. **AERONAUTICS.**—A general course applying the principles of fluid mechanics to airfoils, propellers, and the complete airplane. Prerequisite: M.E. 105. 3 s.h. (w)
ASSISTANT PROFESSOR ELSEVIER

113-114. **JUNIOR MECHANICAL ENGINEERING LABORATORY.**—Open only to mechanical engineering students. First semester, six laboratory hours, devoted to experiments and reports on instruments, dynamometers, hydraulics, analysis of exhaust gas, and properties of fuels and oils. Second semester, three laboratory hours, devoted to experiments and reports on analysis of coal, heating value of fuels, steam calorimetry and flow, injectors, and ejectors. M.E. 101-102 concurrently. 3 s.h. (w)
STAFF

115-116. **JUNIOR MECHANICAL ENGINEERING LABORATORY.**—Open only to electrical and civil engineering students. Experiments and reports on instruments, hydraulics, analysis of exhaust gas, internal combustion engines, oil-fired boiler, air compressor, steam engine and turbine, centrifugal fan and pump, and heating value of fuels. Three laboratory hours. M.E. 103-104 concurrently. 2 s.h. (w)
STAFF

150-151. **MACHINE DESIGN.**—Application of principles of mechanics, strength of materials, constructive processes and engineering drawing to the design of bolted, riveted and welded connections, pressure vessels and machine elements, followed by design of at least one complete machine. M.E. 150 has two recitations and three laboratory hours; M.E. 151 has two recitations and six laboratory hours. Prerequisites: G.E. 107, M.E. 52, M.E. 53, M.E. 57. 7 s.h. (w)
ASSISTANT PROFESSOR HOLLAND AND MR. MACCONOCHIE

153-154. **HEATING, AIR CONDITIONING AND REFRIGERATION.**—Determinations of heat losses and gains; design of steam, hot water and warm air heating and air conditioning systems; panel heating. Fundamentals of refrigeration theory and design. Applications of refrigeration to summer and year round air conditioning; commercial and industrial applications of refrigeration. Prerequisite: M.E. 106. M.E. 159-160 concurrently. Two recitations, three laboratory hours. 6 s.h. (w)
ASSOCIATE PROFESSOR REED

155. **INTERNAL COMBUSTION ENGINES.**—Principal cycles; fuel and fuel mixtures; effect of real mixtures on theoretical cycles; combustion; carburetion and fuel injection. Thermodynamic analysis of engine performance. Modern development in the internal combustion engine. Three recitations. Prerequisite: M.E. 101-102. 3 s.h. (w)
ASSISTANT PROFESSOR ELSEVIER

157. CENTRIFUGAL PUMPS AND BLOWERS.—Studies of the basic principles of design, construction and application of centrifugal pumps and blowers. May also include studies of the theory of gas turbines. May be elected by a limited number of mechanical engineering seniors with consent of Chairman of Department. Prerequisite: M.E. 105. 3 s.h. (w) ASSISTANT PROFESSOR FULTON

[Offered only upon sufficient demand; enrollment limited.]

158. INDUSTRIAL ENGINEERING.—A study of the industrial growth and present tendencies of productive industries as concerns the engineer. Specific topics treated are: plant location, organization, production and cost controls, wage payment, etc. Seniors only. Three recitations. 3 s.h. (w)

ASSISTANT PROFESSOR LEWIS AND MR. SMITH

159. SENIOR MECHANICAL ENGINEERING LABORATORY.—Tests and reports on performance and economy of internal combustion engines, steam engines and turbines; heat transfer, radiator tests, and energy balances. Required of all seniors in mechanical engineering. Six laboratory hours. Prerequisite: M.E. 114. M.E. 153 concurrently. 2 s.h. (w) STAFF

160. SENIOR MECHANICAL ENGINEERING LABORATORY.—Required of all seniors in mechanical engineering. Tests and reports on boiler, engine, turbine, condenser and accessories; heat transfer; refrigeration equipment. Six laboratory hours. Prerequisite: M.E. 159. M.E. 154 and M.E. 162 concurrently. 2 s.h. (w)

STAFF

162. POWER PLANT CALCULATIONS.—Study of economic and engineering factors in developing steam power plants. Consideration of the performance of boilers, prime movers, condensers and various auxiliaries in various groupings as they affect the plant heat balance. May be elected by limited number of C.E. or E.E. students. Three recitations. Prerequisite: M.E. 102 or 104. M.E. 160 concurrently. 3 s.h. (w)

ASSOCIATE PROFESSOR KENYON

164. ENGINEERING ANALYSIS.—A study of a series of engineering problems with particular reference to mathematical and graphical methods of solution and engineering interpretation of results. 3 s.h. (w)

ASSISTANT PROFESSOR WILBUR

166. AIR CONDITIONING DESIGN.—Analysis of air-conditioning requirements, summer and winter, commercial and industrial. Design of systems and units, and selection of equipment. Open to seniors who have completed M.E. 153. 3 s.h. (w)

MR. SMITH

[Offered only upon sufficient demand; enrollment limited.]

197-198. PROJECTS IN MECHANICAL ENGINEERING.—This course may be assigned by the Chairman of the Department to certain seniors who express a desire for such work and who have shown aptitude for research in one distinct field of mechanical engineering. Elective credit for either semester. 3-6 s.h. (w) STAFF

GENERAL ENGINEERING

STAFF

1. ENGINEERING DRAWING.—The study of mechanical drawing with emphasis on third angle projection, pictorial drawing, dimensioning, working drawings, pencil and ink techniques. 2 s.h. (w) ASSISTANT PROFESSORS HAINES AND LEWIS

2. DESCRIPTIVE GEOMETRY.—A study of drawing board geometry with emphasis on line and plane problems, developments, and intersections. Further emphasis on drawing techniques. Prerequisite: G.E. 1. 2 s.h. (w)

ASSISTANT PROFESSORS HAINES AND LEWIS

57. STATICS.—Concurrent forces, parallel forces, nonconcurrent and nonparallel forces, centroids, friction, moment of inertia. Prerequisite: G.E. 1. Mathematics 52 concurrent. 3 s.h. (w)

STAFF

58. DYNAMICS.—General principles of dynamics as applied to particles and rigid bodies. Translation, rotation, general plane motion, work, energy and power, impulse and momentum, gyroscopic motion, introduction to vibrations and balancing of rotating bodies. Prerequisites: G.E. 57 and Mathematics 52. 3 s.h. (w) STAFF

107. STRENGTH OF MATERIALS.—Elastic bodies under stress; flexure of simple, overhanging, fixed and continuous beams; columns; combined stresses, etc. For C.E. students, the laboratory work is included in course C.E. 118. Other students should take course G.E. 109 for laboratory. Prerequisites: G.E. 57, Mathematics 52. 3 s.h. (w) STAFF

109. STRENGTH OF MATERIALS LABORATORY.—Study and use of testing machines and strain gages. Tests to determine significant physical properties of the common engineering materials. Experimental verification of the elementary theory of structural members. Must be preceded or accompanied by G.E. 107. 1 s.h. (w) ASSISTANT PROFESSOR ARGES AND MR. PETERSON

128. HYDRAULICS.—Elementary principles of hydromechanics. Application of hydrostatics to engineering problems and application of the principles of energy, continuity, and momentum to problems of flow. The effects of gravity and viscosity on fluid motion. Dimensional analysis and dynamic similarity; hydraulic measuring devices; steady flow in closed conduits and in open channels. Prerequisite: G.E. 58 or M.E. 52. 3 s.h. (w) ASSOCIATE PROFESSOR WILLIAMS

Student Life and Activities



CONDUCT AND DISCIPLINE: The University expects of its students loyal and hearty cooperation in developing and maintaining high standards of conduct as well as of scholarship. The University therefore reserves the right, and matriculation by the student is a concession of this right, to ask the withdrawal of any student whose conduct at any time is not satisfactory to the University, even though no specific charge be made against the student.

General oversight of the conduct of students and the administering of discipline are under the supervision of the Vice-President in the Division of Student Life. The duty of immediate supervision, guidance, and control of the students in each college is entrusted to the dean of that college. However, through the expressed willingness of the students of the University to assume the responsibility of maintaining high standards of morals and honor, the student body has properly become to a great degree self-governing. Two councils, one of men and the other of women, each composed of duly elected representatives of the student body, exercise the authority granted the students for their respective colleges to investigate all cases of misconduct, as well as all other cases of violation of proper student standards and traditions, and to make recommendations of penalties based on their findings.

The student councils have been helpful to the administrative authorities of the University. They exert a guiding and stimulating influence for the promotion of high ideals of conduct and of student relationships.

ASSEMBLY AND CLASS MEETINGS: The sophomore, junior and senior classes of Trinity College and the College of Engineering meet four times each year and on call to discuss matters pertinent to the individual groups. The freshman classes of these colleges hold weekly meetings. Attendance in class meetings is compulsory.

In the Woman's College the Student Government Association meets on first Monday evenings; the College Assembly is held on second Monday evenings; house meetings are held on third Monday evenings; and class meetings, with the exception of the freshman class, are held on fourth Monday evenings. The freshmen meet as a class each week. In each instance, attendance is required.

AUTOMOBILE REGULATIONS: Freshmen are not permitted to own or operate motor vehicles at the University. Members of other

classes in Trinity College and the College of Engineering are permitted to operate motor vehicles provided they are registered and operated in accordance with University regulations; under the same conditions seniors in the Woman's College may have cars.

SCHOLASTIC REGULATIONS FOR PARTICIPATION IN ATHLETIC AND OTHER ACTIVITIES: Students who received less than a passing grade on more than six hours of required work of the preceding term are ineligible to represent the University in any athletic contest, concert, or other public event.

Members of athletic teams or other student groups engaging in public representation of the University are expected to be carrying their current work satisfactorily. Students may be barred from participation in such representation if, in the opinion of the dean, they fail to meet this requirement.

RELIGIOUS LIFE: "Eruditio et Religio," the motto emblazoned on the seal of the University, proclaims belief in the essential union of knowledge and religion in the educational process. Provisions, both academic and extra-curricular, are made for the realization of this aim. Academic offerings in the field of Religion are described elsewhere in this catalog. The description below concerns non-academic provisions.

The Gothic Chapel stands at the center of the campus, an inspiring symbol of the place of religion in the well-balanced life. This is the home of the Duke University Church, Interdenominational. The Church encourages the cultivation of the spiritual and moral life of students through participation in a program of varied activities.

In the Service of Worship on Sunday morning several hundred students participate by singing in the choir; at least one hundred other students aid in special ways, as ushers, collectors, and assistants at communion services. Hundreds come to worship and are inspired by the beauty and challenge of these services.

But the Church also encourages the students to translate their worship into effective Christian living. A rich program of activities is offered, so that every student can find something that will challenge his interests and meet his needs as an active member of his faith.

These activities are developed along three lines: interfaith, interdenominational, and denominational. Protestant, Jewish, and Roman Catholic students are organized in their respective groups; but periodically they join together in interfaith programs which are carefully planned to respect the traditions of the various faiths. Interdenominational activities for all Protestant students are emphasized because it is believed that a more complete Christian faith is developed through sharing knowledge and fellowship with Christians of other churches.

Vital to the religious life at Duke are the various church groups

known on the campus as the Protestant Denominational Groups. The Church looks to these organizations, under the leadership of their respective chaplains or advisers, to provide a continuing denominational experience through worship, study, service activities, and recreation. The promotion of churchmanship as a part of the total educational experience at Duke is designed to equip students to assume the role of leaders in their local church when they leave the University.

Additional features of the program are the organ recitals and special musical services which are given from time to time on Sunday afternoons in the Chapel. During the summer, carillon recitals are presented twice a week.

The total religious program is under the direction of the Official Board of the Church, composed of an equal number of faculty-staff members and students. The Chaplain is the administrative officer in charge of the religious activities program. Professional guidance is given by the Chaplain to the University, the Preacher to the University, the Choir Director, and the Organist, the Associate Directors of Student Religious Life, and the denominational Chaplains.

PUBLIC LECTURES AND SOCIAL FUNCTIONS: The Faculty Council on Public Lectures supervises all public lectures, addresses, and other public events given under the auspices of the University or of any organization in any way connected with the University. All dates and programs must be approved by the Council, which prepares an official yearly calendar. Current announcements of public occasions appear in the Weekly Calendar of Duke University issued by the Department of Alumni Affairs.

A social committee composed of students and staff members from the undergraduate colleges exercises general supervision over major social functions. The executive officers of the committee are the Dean of Undergraduate Men and the Dean of Undergraduate Women.

MEDICAL CARE: With the exceptions noted below, full medical and surgical care is furnished to all regularly matriculated students of the University. The cost is included in the general fee paid each semester and in the fees charged each student in the summer quarter.*

The service is under the direction of the University Physician with the cooperation of the Staff. It includes hospitalization in Duke Hospital, as deemed necessary by the Hospital Staff but limited to thirty days; medical and surgical care under the supervision of a senior physician or surgeon; drugs, X-ray work, and ward nursing. Special nursing is not covered. Students pay for board while in the hospital. Refractions of eyes, treatment of teeth and of all chronic and pre-existing conditions, such as diseased tonsils, hernias, pilonidal cysts

* Only those students who have paid the fee for the semester, quarter or summer session during which illness occurs are entitled to the services described herein.

and other elective surgery, chronic skin conditions, endocrine disturbances, etc., and accidents or illnesses occurring during vacations or while off the campus, are not included in this service. The cost of any necessary braces and orthopaedic appliances, as well as of special nursing, must be borne by the students, and blood used for transfusions must be paid for or replaced. If students have insurance providing hospitalization, surgical, or medical benefits, the benefits shall be applied to the cost of their medical care.

Advisory consultation with a psychiatrist at no expense is available to students through referral either by the Student Health Physicians or by the deans, but office visits for psychotherapeutic interviews cannot be included in this service.

A woman physician is in residence and a nurse in constant attendance at the Woman's College Infirmary. Patients in this Infirmary can be transferred to the Duke Hospital at any hour of the day or night. Male students receive ambulant care at the student health office in the hospital building during dispensary hours. Men are admitted to the hospital directly whenever necessary. The emergency service and the specialist consulting services of the Hospital and Medical School are always available.

Students are given a careful physical examination upon arrival at the University. Any physical defects are recorded along with the record of the questionnaire from the family physician. All students are requested to be vaccinated successfully against smallpox before admission to the University. It is urgently advised that they take typhoid vaccine if they have not done so within three years, and that all male undergraduates be actively immunized to tetanus by injections of toxoid.

PHYSICAL EDUCATION: Students of Trinity College and the College of Engineering are required to engage in some type of physical activity for two years or four full semesters. This work consists of participation in natural, practical, physical activity for at least three one-hour periods each week. The purpose is to improve body control and strength through big muscle activities, to stimulate the development of mental and physical alertness, to establish habits of regular exercise, and to give training and experience in various kinds of recreational sports that will be indulged in after the student is graduated from the University.

Intramural sports are promoted and fostered in all phases of athletic activity. Meets, tournaments, and leagues are seasonally organized in the different sports. All students of the two colleges are eligible to enjoy the intramural privileges, provided they comply with the intramural rulings. Participation in these activities is entirely voluntary, but they are very popular because they provide an opportunity

for every man to enter into competition and recreation in those sports which he enjoys most.

The work of the Physical Education Department of the Woman's College is designed to give the students of that college an appreciation of the value of activity for general physical well-being, skill in one or more activities which can be enjoyed as recreation during and after college, a well-developed and well-coordinated body, and a knowledge of good posture and efficient handling of the body in everyday activities. To this end, students are allowed to choose from a large number of activities, including individual, dual, and team sports, swimming, and several types of dancing. In order to insure a variety of skills, each student, during her three years of required physical education, must elect one semester's work in each of the following types of activity: individual or dual sports, and dance. All students who are unable to pass the swimming test must take one semester of swimming before graduation. At the mid-point in the fall semester of the freshman year, the activity course ends and all freshmen take one period a week of body mechanics and one of social hygiene for the remainder of the semester.

The Dance Group, the Swimming Club, and the other sports clubs run by the Woman's Athletic Association give opportunities for all students to take part in the types of intramural activities most interesting to them. The swimming pool, tennis courts, and other athletic equipment are available to all students for use at specified times.

In order to meet certain hygienic aspects of physical education and intramural athletics, the University has made available for all students, in addition to facilities for physical activity and recreation, the following equipment and services:

1. (a) MEN. A regulation uniform: shirt, trunks, supporter, socks, sweat clothes, and towel.
- (b) WOMEN. Gym suit, dance costume, bathing suit, warm-up suit.
2. Provision for locker and handling of uniform.
3. The laundering of uniform and towel as needed.

The privileges and services listed above are available to all students who pay full fees, as long as they comply with the rules and regulations established for the care and handling of the equipment.

THE INTERCOLLEGIATE ATHLETIC PROGRAM: The program, controlled entirely by the University, consists of the organization and training of representative freshman and varsity teams in football, basketball, track, cross country, golf, gymnastics, lacrosse, soccer, swimming, tennis, and wrestling.

The program is under the supervision of the Athletic Council, composed of seven members. Three of the seven are appointed from the faculty as follows: one member from the Officers of General Administration, one from the Officers of Educational Administration,

division of the Colleges, and one from the Officers of Instruction of the undergraduate colleges. From this group the President of the University appoints the faculty chairman, who serves as chairman of the Athletic Council and of its executive committee.

Four of the seven members are selected from the alumni. One of the four, a University Trustee, an alumnus, and a member of the Board's standing Committee on Physical Education and Athletics, is appointed not less frequently than every three years by the chairman of the Board of Trustees. The remaining three, who may not succeed themselves, are elected annually by the general Alumni Association for terms of three years. The Director of Alumni Affairs serves *ex officio* as secretary of the Council and of the executive committee.

The three faculty members of the Athletic Council constitute a committee which alone has the responsibility of enforcing the scholarship and athletic requirements of the University for participation in intercollegiate sports. The athletic eligibility rules are those of the Atlantic Coast Conference.

The executive committee of the Athletic Council is composed of the faculty chairman of the Council, one other faculty member of the Council and one alumni member of the Council. The executive committee of the Council recommends to the President of the University persons to serve as Director of Athletics and as coaches in the various sports. The election of such persons, however, rests solely with the Board of Trustees of the University or with its Executive Committee on recommendation of the President of the University. The executive committee of the Council recommends to the Athletic Council athletic schedules and the award of insignia of merit earned by members of the athletic teams. However, decisions with respect to the same rest solely with the Athletic Council subject to approval of the President.

Each of the four undergraduate classes selects annually, for terms of one year, a member of each respective class to serve in an advisory capacity to the Athletic Council upon call of the faculty chairman on the matter of awarding insignia of merit.

All funds arising from athletics are handled entirely by the Treasurer of the University. An audit of the receipts and disbursements of these funds is made annually by the official auditors of the University and a report thereof made annually to the Executive Committee of the Board of Trustees.

THE DUKE STUDENT UNION: All students of Trinity College, the College of Engineering, and the Woman's College are members of the Student Union. The Union Building, located on the West Campus, is the student center. In one section the alumni offices, dining facilities, University store, grill, soda fountain, post office, barber shop, bank, and ball room are housed. In the other there are student organization offices; meeting rooms; information center; music, television,

reading, and Town. Boys' lounge; and a recreational area. Similar facilities for services and activities for the Woman's College are provided on that campus.

The Union has as its stated purpose "to stimulate, promote, and develop the social, recreational, cultural, educational, and spiritual activities of the students of Duke University." This purpose is carried out through a broad program of social and cultural recreation adapted to the leisure-time interests and needs of the campus. This program is administered by a Board of Governors composed of ten students and the Director of the Student Union. Numerous activity committees plan and work under the supervision of the Board of Governors.

STUDENT ACTIVITIES OFFICES: The Student Activities Offices, established for the purpose of guiding and coordinating the activities of the various student organizations, are under the supervision of the Director of the Student Union on the West Campus and the Dean of Undergraduate Women on the East Campus. The Offices cooperate with the University Treasurer's Office in providing banking service and advice with regard to budgeting, accounting, and auditing. Permanent records of all financial activities of organizations are kept here. These Offices, in cooperation with the University Purchasing Department, also serve in the capacity of purchasing agent for affiliated student organizations. There is no charge for this service.

STUDENT PUBLICATIONS: Student publications of the University are under the control of a Publications Board, which is constituted as follows: three members from the University staff and two from the alumni, appointed by the President; six men from the junior and senior classes, elected by the students in Trinity College and the College of Engineering; four women from the junior and senior classes, elected by the students in the Woman's College; and four editors and four managers of student publications, *ex officio* members without voting power. No student publications can be started at the University without the approval of the Council.

The four publications of campus-wide interest are the *Archive* (monthly); the *Chanticleer* (annual); the *Chronicle* (semiweekly); *Duke Peer*. The Engineering students issue a professional bimonthly magazine, the *Duke Engineer*.

STUDENT BROADCASTING SYSTEM: The student broadcasting system of the University is under the control of a Radio Council, which is constituted as follows: two members from the University staff, appointed by the President; three members from the faculty who serve as engineering, production, and business advisers; three men from the junior and senior classes, including one engineer, elected by the students in Trinity College and the College of Engineering; one woman from either the junior or senior class, elected by the students of the

Woman's College; one man from either the junior or senior class, elected by the members of the Student Legislature of the Men's Student Government Association from within the membership of that body; one woman from either the junior or senior class, elected by the members of the Woman's Student Government Council from within the membership of that body; and four student managers of the student broadcasting system, *ex officio* members without voting power.

STUDENT ORGANIZATIONS: The following organizations are active on the campus: *The Men's Student Government Association of Duke University* comprises all men students in Trinity College and the College of Engineering. Through its officers and a council it initiates policies and oversees matters within the control of the male student body. The council is composed of seven members: four executive officers, attorney general, chairman of the Campus Welfare Committee, and chairman of the Educational Affairs Committee.

The Woman's Student Government Association is similar in character to the men's association. Its council is composed of the officers of the Association, house presidents, house judicial representatives, and president of the Town Girls' Club, class representatives, and chairman of the Freshman Advisory Council, *ex officio*.

The Young Men's Christian Association and the *Young Women's Christian Association* are branches of the national student Christian Associations. Each body aims not only to enrich the religious life of its members as individuals but also to promote religious group activity. These organizations carry on extensive activity in the fields of social service, faculty-student relations, forums, and other related projects. Membership in the Student Religious Council relates these organizations to the total religious activities program of the Duke University Church, Interdenominational.

Other organizations and activities include the following: Air Force Club; Arnold Air Society; Bench and Bar Society (Pre-Legal Undergraduates) Chemistry Club, Class of 1955; Class of 1956; Class of 1957; Class of 1958; Commodore Club (N.R.O.T.C. Social Organization); Debate Council; Duke-Charlotte Club; Duke Players; Duke University Church (Interdenominational); Duke University Handbook, and Directory; Engineer's Student Council; Hoof 'n' Horn; Interdormitory Council; Interfraternity Council; Intramural Athletic Department; Men's Freshman Advisory Council; Miami-Duke Club; Pep Board; Pre-Medical Society; Publications Board; Radio Council, Reading Club; Semper Fidelis Society; Shoe and Slipper Club; Sociology Club; Student Religious Council; Student Union Board of Governors; Town Boys' Club; Town Girls' Club; WDBS (campus radio station); Woman's College Student Forum; Women's Athletic Association; Women's Freshman Advisory Council; Women's Pan-Hellenic Council; Young Democrats Club; and the Campus Chest Fund.

The following honorary orders and fraternities have chapters on the campus: National—Alpha Kappa Psi (Economics); Delta Phi Alpha (German); Eta Sigma Phi (Classics); Kappa Chi (Pre-Ministerial); Kappa Delta Pi (Educational); Mu Sigma (Psychology); Omicron Delta Kappa (Leadership—Men); Phi Beta Kappa (Scholarship); Phi Eta Sigma (Freshman Scholarship—Men); Pi Mu Epsilon (Mathematics); Sigma Delta Pi (Spanish); Sigma Pi Sigma (Physics); Sigma Xi (Science); Tau Kappa Alpha (Forensic); Tau Psi Omega (French).

Local—Ivy (Scholarship—Freshman Women); Delta Phi Rho Alpha (Athletic—Women); Varsity "D" Club (Athletic—Men); Beta Omega Sigma (Leadership—Sophomore Men); Sandals (Leadership—Sophomore Women); Phi Kappa Delta (Leadership—Women); Red Friars (Leadership—Senior Men); White Duchy (Leadership—Senior Women).

Engineering (Professional)—American Institute of Electrical Engineers; the American Society of Civil Engineers; and the American Society of Mechanical Engineers. Engineering (Honorary)—Tau Beta Pi (Engineering national honor society); Eta Kappa Nu (Electrical engineering national honorary society); Pi Tau Sigma (Mechanical engineering national honorary society); Order of St. Patrick (Leadership).

Local musical organizations available to qualified members are: Chamber Orchestra; Concert Band; Madrigal Singers; Marching Band (Men); Men's Glee Club; Symphony Orchestra; University Chapel Choir; Women's Glee Club.

The following national social fraternities have chapters on the campus: Alpha Tau Omega; Beta Theta Pi; Delta Sigma Phi; Delta Tau Delta; Kappa Alpha; Kappa Sigma; Lambda Chi Alpha; Phi Delta Theta; Phi Kappa Psi; Phi Kappa Sigma; Pi Kappa Alpha; Pi Kappa Phi; Sigma Alpha Epsilon; Sigma Chi; Sigma Nu; Sigma Phi Epsilon; Tau Epsilon Phi; Theta Chi; Zeta Beta Tau.

The following national social sororities have chapters on the campus: Alpha Chi Omega; Alpha Delta Pi; Alpha Phi; Alpha Epsilon Phi; Delta Delta Delta; Delta Gamma; Kappa Alpha Theta; Kappa Delta; Kappa Kappa Gamma; Phi Mu; Pi Beta Phi; Sigma Kappa; Zeta Tau Alpha.

Honors and Prizes



HONORS: To be eligible for Honors a student must earn, during the year, credit for at least the normal load of the college in which he is registered. All semester hours on which a student receives a grade are counted in the determination of Honors. Students in the freshman, sophomore, and junior classes who earn an average of at least three and one-half quality points per semester hour are given Honors.

The degree of Bachelor of Arts or of Bachelor of Science with distinction is conferred in accordance with the following rules:

To be eligible for general Honors at graduation a student must have completed in residence a minimum of ninety semester hours. Those students who earn an average of at least three and one-half quality points per semester hour are recommended for a degree *magna cum laude*. Those who earn an average of at least three and three-fourths quality points per semester hour are recommended for a degree *summa cum laude*.

MEDALS AND PRIZES: *The Wiley Gray Medal* was established by the late Robert T. Gray, Esq., of Raleigh, North Carolina, to be awarded annually in memory of his brother. It is given for the graduating oration that shall be, in the opinion of a committee, the best, with respect to both declaration and composition.

The Debate Council authorizes the awarding of medals to members of the graduating class who have represented the University in at least two intercollegiate debates. The medals are given by the local chapter of the Tau Kappa Alpha Fraternity.

The Robert E. Lee Prize is the gift of The Reverend A. W. Plyler, of the Class of 1892, and Mrs. Plyler. The sum of \$50 is awarded annually at Commencement, preferably to that member of the senior class of Trinity College or the College of Engineering who, in character and conduct, in scholarship and athletic achievement, in manly virtues and capacity for leadership, has most nearly realized the standards of the ideal student. The Vice President in the Division of Student Life, the Graduate Manager of Athletics, and the President of the Student Council constitute a committee to draft and adopt regulations governing the award.

Alpha Kappa Psi Medallion. Beta Eta Chapter of Alpha Kappa Psi, a professional fraternity in commerce, awards annually the Alpha Kappa Psi Scholarship Key to the male senior student pursuing a degree in the Department of Economics and Business Administration

who has attained the highest scholastic average for three years of collegiate work in this University.

Medal of the North Carolina Association of Certified Public Accountants. The North Carolina Association of Certified Public Accountants annually awards a medal to the senior who, in the judgment of his instructors, is the most outstanding student in accounting in his graduating class.

Julia Dale Prize in Mathematics. This is a prize of books given annually to the undergraduate who shows the greatest proficiency in the study of calculus.

The Milmow Prize, consisting of one year's subscription to the *Electrical World*, is awarded each year to that student from North or South Carolina graduating in the Department of Electrical Engineering who, in the opinion of the faculty of that department and as shown by his grades, has made the most progress in electrical engineering during his last year in college.

The Tau Beta Pi Prize. The North Carolina Gamma chapter of Tau Beta Pi, national honorary engineering fraternity, awards each year a suitable prize, such as an engineering handbook, to a sophomore student in engineering for outstanding scholastic achievement during the freshman year.

The Phi Lambda Upsilon Prize. Phi Lambda Upsilon, honorary chemical society, yearly awards a suitable prize to an outstanding junior who is majoring in chemistry. The recipient's name is inscribed on a plaque displayed in the Chemistry Library.

The Pegram Chemistry Club Prize is awarded in the spring of each year for scholarship in chemistry, physics, and mathematics. The prize consists of a one-year junior membership in the American Chemical Society and a one-year subscription to either the *Journal of the American Chemical Society* or *Industrial and Engineering Chemistry*. To qualify for this prize, the student must (1) be enrolled as an undergraduate of Duke University and (2) be taking or have taken a fourth-year chemistry course. The winner of this prize is selected by a committee consisting of at least one faculty member and at least two members of the Pegram Chemistry Club; the selection is based on the quality-point average for all courses taken in chemistry, physics, and mathematics. In case of a tie equal awards are given.

The Sigma Xi Prize. The Society of the Sigma Xi, honorary scientific society, is devoted to the encouragement of scientific research, and seeks to stimulate those who show promise of accomplishment in scientific research. As an encouragement to younger men and women the Duke Chapter of Sigma Xi has established the following prizes to be awarded annually to students resident at Duke University: \$20.00 for an undergraduate project or paper, \$20.00 for a Master's thesis or its equivalent, and \$40.00 for a Ph.D. dissertation or its

equivalent. Nominations, recommendations, copies of theses, reports or other material must be in the hands of the Secretary of the Chapter on or before May 5.

The Erasmus Club Prize in the Humanities. The Erasmus Club, founded in 1925, a group of Duke faculty members interested in research in language, literature, and the arts, seeks to stimulate interest and study in these fields. To encourage Duke students in this field, the Erasmus Club has established an annual prize amounting to \$25.00, for the best original essay by an undergraduate which embodies the results of research, criticism, or evaluation in some subject in the humanities. Prospective competitors should consult some member of the faculty, preferably their major professor. Essays must be typewritten and must be submitted to the president of the club before the first of April. The club reserves the right to withhold the prize in case there are no essays of acceptable quality.

The Anne Flexner Memorial Award in Creative Writing has been established by the friends of the family of Anne Flexner, who graduated from Duke in 1945. It consists of fifty dollars in cash and a book bearing the Anne Flexner Memorial Award bookplate. The award is given annually for the best piece of creative writing submitted by a Duke undergraduate. The competition is limited to short stories (5,000-word limit), one-act plays (5,000-word limit), poems (100-line limit), and informal essays (3,000-word limit). Only one manuscript may be submitted by a candidate, and manuscripts must be delivered to the English Office, Room 325 Allen Building, before April 15.

The William Senhauser Prize is given by his mother in memory of her son, a member of the Class of 1942, who lost his life in the Pacific Theatre of War on August 4, 1944. The award is made annually to the sophomore or junior in Trinity College or the College of Engineering who has made the greatest contribution through participation and leadership in intramural sports. The winner of this prize is chosen by a committee selected by the President of the University.

The *Friends of Duke University Library* offer three prizes of \$25.00, \$15.00, and \$10.00, in an annual contest open to all undergraduate students for the best book collections acquired during their college years. The contest is supervised by the Undergraduate Committee of the Friends of the Library, which announces each fall the terms of the award. Inquiries may be directed to the Curator of Rare Books. Collections entered in the contest are exhibited each spring in the General Library, and the prizes are awarded on the basis of the student's collection and a personal interview to determine the overall planning and objectives of his collecting activity, and his familiarity with his own books and the general field of his collecting interest.

THE GRADUATE SCHOOL OF ARTS AND SCIENCES

Fall Semester begins September 22, 1955

Spring Semester begins February 1, 1956

Admission



TO GRADUATE SCHOOL. Admission may be granted to a student who has received an A.B. or B.S. degree from an accredited institution after a four-year course of study. The undergraduate record should be well-rounded and of such quality as to give positive evidence of capacity for success in graduate study.

Before admission can be granted, the student must submit for appraisal the following documents: (a) An official transcript of all his college or graduate work, to be forwarded directly from the Registrar of his college to the Dean of the Graduate School at Duke University. (b) Two or three letters of recommendation, to be furnished by persons best qualified to judge the applicant as a prospective graduate student. (c) The submission of scores on the Graduate Record Examination is required under the following conditions: (1) for all applicants for graduate work in the departments of Biochemistry, Economics, English and Psychology; (2) when an applicant has taken the examination prior to his application to graduate study; (3) when requested by the Admissions officer to assist him in arriving at a decision as to the admission of the applicant. If the other documents of the applicant are satisfactory, he may be granted "provisional" admission until the Graduate Record Examination scores are submitted and accepted. Arrangements to take this examination can usually be made through officials of the student's college, or by correspondence with the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey.

APPLICATION PROCEDURE. A student desiring admission to the Graduate School, should request official application blanks from the Dean. These should be filled out fully and returned at the earliest moment. The other documents needed to complete the application, namely, transcripts, letters of recommendation, and, if required, the Graduate Record Examination scores, must be forwarded directly from the institutions or individuals to the Dean of the Graduate School. In no case will such documents be accepted from the student.

The application and all supporting documents should be submitted to the Dean of the Graduate School not later than August 1 by those applying for the fall semester, or January 1 by those applying for the spring semester. It is difficult to process properly applications received after these dates. It is the student's responsibility to make certain that his application is complete and in order before the dates specified.

When the application is accepted and approved, the student will receive a letter of admission, giving the date by which he must notify the Dean of the Graduate School of his intention to enroll for the term for which he is granted admission.

Admission, once granted, is valid only for the term or year specified. Should a student be unable to enter the Graduate School at that time but wishes later to be admitted to a subsequent term, he must re-apply for admission, following the usual procedure. But he need only bring his application up to date, if he re-applies within two years of the date when he was first admitted.

Registration

Once the student has received notification of his admission to the Graduate School, but not until then, he may present himself for registration. During the registration periods, announced in the *Bulletin*, he first confers with the Director of Graduate Studies of his major department, who prepares an Approval Card, listing the course work to be taken during the semester. The student then presents this Approval Card to the Graduate School, which enrolls him officially in his courses.

WHO MUST REGISTER. (1) All students who enter course work or residence for credit; (2) all students who have completed minimum requirements for the Ph.D. degree, but are using in their research the facilities of the University; (3) all students who wish merely to "audit" a course or courses.

LATE REGISTRATION. All students are expected to present themselves for registration at the time stated in the *Bulletin*. *Those registering after the close of the announced registration period will be charged a late registration fee of five dollars.*

Degrees Offered



THE Graduate School of Arts and Sciences now offers the following degrees: The Master of Arts (A.M.), The Master of Education (M.Ed.), The Master of Arts in Teaching (M.A.T.), The Doctor of Philosophy (Ph.D.), and The Doctor of Education (Ed.D.).

Regulations Concerning Master's Degrees

RESIDENCE REQUIREMENTS. Candidates for all Master's degrees must spend, as a *minimum*, one full academic year in residence at Duke University. Often more time will prove necessary, depending upon the nature of the student's research problem and upon the student himself. Students who wish to complete their degrees wholly by summer work must be in residence for 30 weeks, and present 30 semester hours of registered credit.

ADMISSION TO CANDIDACY. In order to be considered a candidate for a Master's degree (A.M., M.Ed., M.A.T.) a student must (1) have received the approval of the major department, or in the case of the M.A.T., of his committee, (2) have made passing grades in all his courses during his first semester (If he registers for fewer than 12 semester hours of graduate courses during his first semester, or if he is enrolled in the Summer Session, he must make passing grades in his initial 12 hours of graduate courses.), (3) have made a grade of "G" or "E" on at least 3 semester hours of this work.

If he does not fulfill these conditions on the initial semester hours, but does better work, signified by a substantial number of "G's" or "E's" in a subsequent term, he may be granted permission then to re-apply for candidacy.

TRANSFER OF GRADUATE CREDITS. Credit for graduate course work earned at another institution will be determined only after a student has spent one semester at Duke University. After completing his first semester, the student should file a request that his credits be reviewed and a decision made.

Under certain circumstances a maximum credit of 6 semester hours may be allowed for graduate courses completed elsewhere. The acceptance of credit up to this amount, however, will not reduce the minimum period of full-time registered residence at Duke University.

With the approval both of the student's major department and the

Dean of the Graduate School, a student who is granted such transfer credit may be permitted to register for as much as 12 semester hours of thesis research instead of the usual 6 semester hours. Or he may be permitted to fill out his schedule with as much as 6 semester hours of further undergraduate training or 6 semester hours of required language courses on the undergraduate level. In no case will credit be allowed for extension or correspondence courses.

TIME LIMITS FOR COMPLETION OF MASTER'S DEGREES.

The candidate for a Master's degree must complete all of the requirements within a period of six calendar years from the date of his initial registration. Credits earned over a longer period of time cannot be credited toward a degree.

THE THESIS. The thesis should demonstrate the student's ability to collect, arrange, interpret, and report pertinent material on his special research problem. Although a publishable document is not required, the thesis must be written in a literate style and should exhibit the student's competence in scholarly methods and procedures.

The Master of Arts Degree

UNDERGRADUATE PREREQUISITE. As a prerequisite to graduate study in his major subject, the student must have completed a *minimum* of 12 semester hours of approved college courses in that subject, and 12 additional semester hours in that subject or in related work. Since some departments require more than 12 semester hours, the student should read carefully the special requirements listed by his major department, which are included as headnotes to the course offerings in the *Bulletin*.

LANGUAGE REQUIREMENTS. The candidate for the A.M. degree must have a reading knowledge of at least one foreign language. (The several departments reserve the right to specify which foreign languages are acceptable.) Evidence of such knowledge may be furnished in either of two ways: (1) by successfully passing an examination, officially conducted by the appropriate foreign language department at Duke University, or (2) by a transcript showing the completion of the third college year of one language, or the second college year of each of two acceptable foreign languages.

MAJOR AND MINOR SUBJECT. In his graduate work, the student, in order to complete the course requirements for the A.M. degree, must present acceptable marks for a minimum of 24 semester hours of graduate courses. Of these, at least 12 semester hours must be in the major subject.

Outside of his major, the student must take a minimum of 6 semester hours in a minor subject. The selection of the minor must be ap-

proved by his major department. The remaining 6 semester hours of the necessary 24 may be taken in either of these departments, or in another approved by the major department and by the Dean of the Graduate School. In addition to these he must present a thesis, which carries a credit of 6 semester hours. Thus, his earned credit for the degree totals a minimum of 30 semester hours.

REGULATIONS AND PROCEDURES. On or before November 15 of the academic year in which the degree is expected to be conferred, the student must file with the Dean of the Graduate School, on the official form, the title of the thesis. This title must have the approval of the Director of Graduate Studies in the major department, and of the professor under whose direction the thesis will be written.

The student who completes all of his work for the degree and who expects to receive it at the regular commencement exercises in June, must so notify the Graduate School office before the March 15 preceding.

Four bound, typewritten copies of the thesis must be submitted, in approved form, to the Dean of the Graduate School on or before May 1 preceding the June commencement at which the degree will be conferred. The copies will then be distributed to the several members of the examining committee. As specified by the Graduate Faculty, the thesis must be typed on the following grades of paper: the original must be green-lined paper of at least sixteen pound weight; the three copies must be on paper of at least thirteen pound weight. Both grades must be of seventy-five per cent rag content.

THE EXAMINING COMMITTEE AND THE EXAMINATION. After consultation with the professor who has directed the thesis, the Dean of the Graduate School appoints an examining committee composed of the director of the thesis and two other members of the Graduate Faculty, one of whom must be from a department other than that of the major.

The candidate appears before this committee for examination, which usually is restricted to the thesis and to the major field, and which lasts for about one and one-half hours.

If the candidate successfully passes his examination, the examining committee certifies this fact by signing the title page of the thesis. The candidate then returns the original and one carbon copy of the thesis to the Dean of the Graduate School, who deposits them in the University Library.

The Master of Education Degree

PREREQUISITE. The degree of Master of Education is granted ordinarily only to teachers or to others engaged in educational work.

Before a student is admitted to graduate study for this degree, he

should have completed, on the undergraduate level, a minimum of 18 semester hours of approved work in education, including courses in Educational Psychology, and courses in the History of Education, Educational Sociology, or School Administration.

Early in the program of his work, the student must pass two examinations: (1) a test of general ability, and (2) a test designed to determine his ability to write acceptable English. The student, before the degree is conferred, must also present evidence testifying to at least two years of teaching experience, gained either before his admission to course work, or concurrently with it.

REQUIREMENTS FOR THE DEGREE. The M.Ed. degree may be earned either with or without the presentation of a thesis:

WITHOUT THESIS: Students who elect this plan must present a total of 30 semester hours of credit. Twelve hours of this required work must include the four basic courses: Education 204, 210, 217, and 235. If a student, by examination, can demonstrate his competency in the subject matter of two of these courses, he may be granted exemption from the required work in these courses. In no case may he claim exemption from more than two.

Other requirements are: a departmental major (i.e., in Elementary Education, Public School Administration, Public School Supervision, or Secondary Education) of at least 12 semester hours, and a minor of at least 6 semester hours in a department other than Education. Toward the end of his residence the student must pass a comprehensive examination on his departmental major and on the content of the four basic courses. Permission to take such examinations must be obtained from the Director of Graduate Studies of the Department of Education, and a notice of intention must be filed with him at least three weeks before the announced dates of the examination.

WITH THESIS: Students who elect this plan are permitted to substitute a thesis for 6 semester hours of the required course work. He must also present a thesis subject approved by the Professor of Education who intends to direct it, and by two other members of the staff in Education, including the Director of Graduate Studies. Two of the three members of the approving committee must be permanent members of the Duke University Graduate Faculty. The title of the thesis must be filed with the Dean of the Graduate School on or before November 15 of the academic year in which the degree is expected to be conferred.

In addition to the thesis, the student must present at least 24 semester hours of course credit. Of these, 6 semester hours must be earned in *two* of the basic courses in the Department: Education 204, 210, 217, or 235. Of the remaining 18 or more semester hours, 6 semester hours must constitute a minor taken outside of the De-

partment of Education; at least 12 semester hours must be taken in the student's departmental major.*

The examination on the thesis is similar to that for the Master of Arts degree.

The Master of Arts in Teaching Degree

PREREQUISITES. The degree of Master of Arts in Teaching is designed for teachers already in service and for recent graduates of Liberal Arts colleges who wish to enter public school teaching.

A student should normally have completed a minimum of 12 semester hours in his proposed major subject and an additional 12 semester hours in that or related subjects. In the event that a student wishes to undertake a graduate major different from the undergraduate major, the prerequisites may be modified upon the recommendation of the student's committee and the approval of the Dean of the Graduate School.

PROGRAMS FOR THE DEGREE. One of two programs may be arranged, in consultation with the student's committee:

A. A major in Education of 18 to 24 semester hours and 6 to 12 hours in non-education courses.

B. A major in non-education courses of 18 to 24 semester hours and 6 to 12 semester hours in Education.

In both programs a minimum of 30 semester hours is required.

The non-education courses are to be taken in one or more subjects ordinarily taught in the secondary schools. The amount and distribution of this work will be determined by the needs of the individual student.

The Master of Arts in Teaching may be earned with or without the presentation of a thesis. If a student, in consultation with his committee, elects to present a thesis, 6 semester hours of the total of 30 semester hours required will be allotted to thesis research. He will then be required to complete 24 semester hours of course credits. The regulations concerning the writing and submission of the thesis, and the examination of it, are the same as those governing the thesis for the Master of Arts degree.

THE COMMITTEE. Each candidate for the degree will be assigned a committee, appointed by the Dean of the Graduate School, to plan his program of study. This committee will consist of three members, at least one of whom will be from the Department of Education, and at least one from another department. The chairman of the committee will normally be chosen from the department of the major.

* Those who expect to attend Summer Sessions should consult the statement on page 57 of the *Bulletin of the Graduate School of Arts and Sciences* regarding course requirements.

The Doctor of Philosophy Degree

The Ph.D. degree is essentially a research degree. Although course work is a necessary part of the student's program, the mere accumulation of course credits will not be sufficient for attaining this degree. The granting of the Ph.D. is based primarily upon the student's knowledge of a specialized field of study and upon the production of an acceptable dissertation embodying the results of original research.

Before undertaking a program of advanced work toward the Ph.D., the student should consult with the Dean of the Graduate School or the Director of Graduate Studies in his major department to determine the possibility of securing necessary instruction and supervision of research in his field of specialization.

REQUIREMENTS FOR THE PH.D. DEGREE. The formal requirements, discussed in detail below, for the Ph.D. degree are as follows: (1) foreign languages; (2) major and minor courses; (3) supervisory committee for program of study; (4) residence; (5) preliminary examination; (6) dissertation; (7) final examination.

FOREIGN LANGUAGES. Normally, a reading knowledge of both French and German is required. Such knowledge is evidenced by the passing of an examination conducted by the appropriate language department at Duke University, in cooperation with the student's major department.*

With the permission of the major department, and with the approval of the Dean of the Graduate School, a student may be allowed to substitute for either of these another language which has a definite relation to the candidate's program of work for the Ph.D. degree. By rule of the Graduate School Faculty, language examinations must be passed before a student takes his preliminary examination. Some departments require the student to master these languages early in the graduate program.

MAJOR AND MINOR. The student's program of study necessarily demands substantial concentration on courses in his major department. Enough work must be taken in another department to constitute an acceptable minor. Exceptions which permit both the major and minor within the same department are allowed only by the special permission of the Dean of the Graduate School.

COMMITTEE TO SUPERVISE THE PROGRAM OF STUDY. Ordinarily, during the student's third semester of graduate work a supervisory committee of five members is appointed by the Dean of the Graduate School. This committee, with the professor who is to direct the student's research serving as chairman, formulates the program of study, which is submitted to the Dean of the Graduate School

* See pp. 5-6 of the *Bulletin of the Graduate School of Arts and Sciences* for the dates of these examinations.

for his approval. Of the five members, one must be from a department (usually the minor) other than the major department. This committee, with occasional necessary changes, serves also as the examining committee for both the preliminary and the final Ph.D. examinations.

RESIDENCE. The normal period of residence is not less than three full academic years beyond the A.B. or B.S. degree. A student who already has his A.M. degree may be allowed one year of residence for it, and thus will need to spend a minimum of two additional years in residence.* In unusual cases, a student who has spent the first two years in residence at Duke University may be allowed to take his third year of residence at some other accredited institution. This can be done only with the approval of the major department and of the Dean of the Graduate School. It should be understood that either the first two years or the last year must be spent in actual residence at Duke. Occasionally, because of undergraduate deficiencies, a student may need to spend additional time beyond the minimum residence in preliminary courses (for which he will not receive residence credit) as a background for certain aspects of his graduate program.

Except in unusual cases, graduate work of fragmentary character taken over a long period of years, or work completed many years before the student becomes a candidate for the degree at Duke University, will not be accepted as satisfying the requirements of residence.

CREDIT FOR SUMMER WORK. With the approval of the major department and of the Dean of the Graduate School, credit for a maximum of one year's residence may be granted for work completed in Summer Sessions. A full schedule of summer courses, carried for six weeks, constitutes one-fifth of a year's residence credit.

PRELIMINARY EXAMINATION. Near the end of the second academic year of graduate work (or in special cases early in the third year) the student must take his preliminary examination, which ordinarily covers the field of both his major and minor. Conducted by his Supervisory Committee, the examination is oral, or written, or both, as determined by the Committee. *Upon passing this examination, and not until then, the student is accepted as a candidate for the Ph.D. degree.* Transfer students who may already have passed a preliminary examination at another university must nevertheless take the examination at Duke.

PRIVILEGE OF RE-EXAMINATION. Should the student fail the preliminary examination, he may apply, with the consent of his Supervisory Committee and of the Dean of the Graduate School, for the privilege of a second examination to be taken no sooner than six months after the date of the first. Failure on the second examination

* See page 200 for rules regarding transfer of graduate credit.

will render the student ineligible to continue his program for the Ph.D. degree at Duke University.

THE DISSERTATION. The dissertation is expected to be a mature and competent piece of writing, embodying the results of significant and original research. It must be, in essence, a contribution to knowledge.

The subject for the dissertation must receive the written approval of both the Director of Graduate Studies of the student's major department and of the professor who directs the dissertation. The title of the dissertation must be filed with the Dean of the Graduate School on or before October 15 preceding the June commencement at which the degree is expected to be conferred.

The dissertation must be completed to the satisfaction of the professor who directs it; and four bound, typewritten copies in approved form must be deposited with the Dean of the Graduate School on or before April 15 preceding the June commencement when the degree is to be conferred.

As specified by the Graduate Faculty, the dissertation must be typed on the following grades of paper: the original must be green-lined paper of at least sixteen pound weight; the three copies must be on paper of at least thirteen pound weight. Both grades must be of seventy-five per cent rag content.

The form of the title page must be approved by the major department and by the Dean of the Graduate School.

A biographical sketch of the author of the dissertation must be bound in at the end of each copy. Ten copies of a brief summary must be submitted with the dissertation.

After the final examination the original and the first carbon copy of the approved dissertation are returned to the Dean of the Graduate School for deposit in the University Library.

DISSERTATION FEE AND PUBLICATION REQUIREMENT. Not later than May 1 preceding the June commencement when the degree is to be conferred, the candidate must deposit with the Treasurer of the University, a dissertation fee of \$50.00. Should the dissertation be published in a form satisfactory to the professor under whom it was written, and to the Dean of the Graduate School, within a period of three years from the date of the degree, the deposit fee will be returned to the student.

Three copies of each published dissertation must be deposited with the Dean of the Graduate School, as provided by the regulation of the Graduate School Faculty. A suitable abstract or one or more articles in published form may be accepted as satisfying the publication requirements. Three copies of each of these must be deposited with the Dean of the Graduate School.

If the dissertation is not published within a three-year period under the conditions stated above, the deposit fee is forfeited and is credited to a Special Dissertation Fund, which is used for subsidizing the publication of such dissertations as are recommended by the Graduate School Faculty.

FINAL EXAMINATION. The final oral examination shall be primarily on the dissertation. Questions may, however, be asked in the candidate's major field. Normally, one year must elapse between the dates of the preliminary and the final examinations.

If a student fails his final examination, he may be allowed to take it for a second time, but not sooner than six months from the date of his first. Permission to take the second examination must be obtained from the professor who directed the dissertation and from the Dean of the Graduate School. Failure to pass the second examination renders the student ineligible to continue work for the Ph.D. degree at Duke University.

The Doctor of Education Degree

The Doctor of Education is a professional degree and is granted only to those who are, or intend to become, public school administrators.

ADMISSION. The candidate for the Ed.D. degree must meet the same requirements for admission to the Graduate School as the candidate for the Ph.D. degree. In addition to these uniform requirements, the candidate for the Ed.D. (1) must have had at least three years of experience in public school work, preferably in school administration; (2) must make a satisfactory mark on a psychological examination, and demonstrate, by examination, his ability to write good English; (3) must present strong letters of appraisal and recommendation from persons well qualified to speak with authority of his abilities; and (4) must present himself, if possible, for a personal interview. The Standing Committee on the Ed.D. degree reserves the right to insist upon an interview.

RESIDENCE. A minimum period of residence equivalent to three academic years beyond the A.B. or B.S. degree is required for the Ed.D. degree. Either the first two years or the last year must be taken at Duke, and the candidate must spend at least two consecutive semesters at Duke. Occasionally, because of undergraduate deficiencies, a student may need to spend additional time beyond the minimum residence in preliminary courses (for which he will not receive residence credit) as a background for certain aspects of his graduate program.

Except in unusual cases, graduate work of fragmentary character taken over a long period of years, or work completed many years before

the student becomes a candidate for the degree at Duke University, will not be accepted as satisfying the requirements of residence.

ACCEPTABLE MARKS ON FIRST YEAR'S WORK. In order to be considered for candidacy for the Ed.D. degree, the student must have passed all of his course work in the first year of graduate study; on at least 9 semester hours he must have made a grade of "G" or better.

PRELIMINARY EXAMINATION. By the end of his second year of residence the candidate for the Ed.D. degree will take a preliminary examination similar in scope to that described for the Ph.D. degree. Only after he passes this examination, will he be considered a candidate for the degree.

DISSERTATION FEE AND PUBLICATION REQUIREMENT. The dissertation fee and the publication requirement are the same as those for the Ph.D.

DISSERTATION AND FINAL EXAMINATION. The candidate must write a dissertation which demonstrates his ability to investigate and report on some significant phase of public school administration. The details of dissertation presentation, including its defense in a final examination, are the same as those for the Ph.D. degree.

AWARDING OF THE DEGREE. After the completion of the formal academic requirements for the Ed.D. degree, the candidate must devote at least one year of apprenticeship in a public school system, under conditions which assure appropriate supervision of the candidate's activities. The Standing Committee on the Ed.D. degree will decide the adequacy of this training. The degree will not be formally awarded until after the successful completion of this apprenticeship.

PROGRAM OF WORK. The details of the program of work are determined for each candidate by the Standing Committee for the Ed.D. degree. In general, the first year of work follows the program laid down for the M.Ed. degree. In the second and third years, work in Public School Administration is organized on the basis of seminars rather than separate courses. This professional, specialized study accounts for about one-third of the course work. The other two-thirds is divided almost equally between the general field of Education and related work.

MAJOR AND MINOR. The major field is Public School Administration. The minor, or related work, amounting to at least 24 semester hours, must be taken in economics, political science, and sociology. Courses necessary for the student's program which lie outside these fields must receive the approval of the Standing Committee.

General Regulations

SIZE OF CLASSES. Classes which carry graduate credit are limited in size to twenty-five students. In exceptional cases this regulation may be modified, but only by permission of the Executive Committee of the Graduate School Faculty on the recommendation of the department concerned.

GRADING OF GRADUATE STUDENTS. Grades in the Graduate School are as follows: "E," "G," "S," "F," and "Inc." "E" (exceptional) is the highest mark. "G" (good) and "S" (satisfactory) are the remaining passing marks. "F" (failing) is below passing, and "Inc." (incomplete) indicates that some portion of the student's work is missing, for a satisfactory reason, at the time the grades are made out. The professor who gives an "Inc." specifies the date by which time the student must have made up the deficiency. In no case may an extension be granted beyond one calendar year from the date the course ended. No residence credit can be granted for that portion of a student's program which lapses because of incomplete marks.

CHARGE FOR REQUESTED TRANSCRIPTS. A student who wishes to transfer his credits from Duke University to another institution is entitled to one free transcript of his record. A fee of one dollar, payable in advance, is charged for each additional copy.

TRANSFER OF GRADUATE CREDITS. Credit for graduate course work earned at another institution will be determined only after a student has spent one semester at Duke University. After completing his first semester, the student should file a request that his credits be reviewed and a decision made.

WITHDRAWAL FROM GRADUATE SCHOOL. If a student wishes to withdraw from the Graduate School, he should notify both the Director of Graduate Studies in his major department and the Dean of the Graduate School.

GRADUATE CREDIT EARNED BEFORE A.B. DEGREE IS GRANTED. Ordinarily no credit for graduate courses earned before a student has been awarded his A.B. or B.S. degree will be allowed. However an undergraduate student at Duke University, who, at the beginning of a semester, lacks no more than 9 semester hours for fulfilling the requirements for the A.B. or B.S. degree, may obtain permission from the Dean of the Graduate School to enroll for graduate courses sufficient to bring his total program to fifteen hours a week. Such graduate courses will be credited toward the A.M., M.Ed., or M.A.T., provided that the student meets the requirements for admission to the Graduate School, and that he is duly registered in the Graduate School at the beginning of that term.

Awards and Fees



Fellowships, Scholarships, and Assistantships

FOR the encouragement and financial assistance of graduate students of high character and marked ability, Duke University has established a considerable number of fellowships, scholarships, and assistantships. The stipends for these range from \$470 to \$2,000. Holders of grants pay tuition and other fees regularly required of all graduate students.

Fellows and scholars pay full tuition and fees and are registered for a full schedule of course work and receive full residence credit. In general, assistants pay four-fifths tuition and fees, are registered for a four-fifths schedule, and receive four-fifths residence credit.

APPLICATION FOR GRANTS. Applications for these grants, along with all supporting documents, must be submitted on or before March 1. Notification of awards is made about April 1. Late applications will be considered, should any vacancies occur in the list of appointees. No appointment is made for longer than one academic year.

Further information and application forms may be obtained from the Dean of the Graduate School, Duke University.

Grants offered for 1955-56 are:

FELLOWSHIPS. One Angier Duke Memorial Fellowship of \$2,000; three Gurney Harriss Kearns Fellowships in Religion of \$1,200 each; University Fellowships with stipends ranging from \$1,000 to \$1,800.

GRADUATE ASSISTANTSHIPS. Appointments as departmental assistants or readers will be available for graduate students. The stipend will be in the range of \$800 to \$2000 depending upon the fraction of time given to assisting, the qualifications of the the assistant, and the nature of work assigned.

GRADUATE SCHOLARSHIPS. Scholarships with stipends varying from \$400 to \$1,500 each.

CHARLES W. HARGITT RESEARCH FELLOWSHIP IN ZOOLOGY. The Charles W. Hargitt Fellowship in Zoology is limited to research in the field of cellular studies. It is primarily for post-doctoral applicants and established investigators on sabbatical leave who desire to engage in full-time research. The stipend will

vary, depending upon previous training and experience, but in general will provide an income equivalent to that of a first year instructor and may be higher in the case of established investigators.

The recipient will have no departmental duties, but space and facilities will be provided.

The fellowship may occasionally be granted to a pre-doctoral applicant in his final year of graduate work who has met all degree requirements other than completion of research, and whose research gives promise of unusual merit.

Appointment is for one year with the possibility of reappointment. Inquiries and applications should be made to Dr. Henry S. Roberts, Department of Zoology, Duke University, Durham, North Carolina.

FELLOWSHIPS AND GRADUATE SCHOLARSHIPS IN FORESTRY. Information regarding special fellowships and graduate scholarships in forestry may be obtained from the Dean of the School of Forestry, Duke University, Durham, North Carolina.

SIGMA XI PRIZE AWARDS. The Society of Sigma Xi offers each year a prize for a Master's thesis and a prize for a Ph.D. dissertation in the fields of botany, chemistry, forestry, mathematics, medicine, physics, psychology, and zoology. The student must be in residence during the academic year in which the prize is awarded. Students holding graduate appointments are eligible to compete, but instructors, part-time instructors, and interns are not eligible. The department concerned makes the nomination. Full particulars may be obtained from the secretary of the chapter. Nominations, recommendations, copies of theses, reports, or other materials must be in the hands of the secretary on or before May 1. All papers should be submitted in duplicate.

Tuition, Fees, and Expenses

GENERAL FEES IN THE ACADEMIC YEAR. The following table shows the general fees and charges collected from all students. All fees for each semester are due and payable, unless otherwise specified, at the time of registration at the beginning of that semester. No student is admitted to classes until arrangements have been made with the Treasurer of the University for the settlement of fees.

Tuition, per semester.....	\$225.00
General Fee,* per semester.....	60.00
Athletic Fee, not including Federal Tax, Optional, per year, payable in the fall semester	10.00
Room-rent—See detailed statement below.	
Special Dissertation Fee, payable by candidates for the Ph.D. degree, on or before the May 1 preceding the granting of the degree.....	50.00

* General Fees, in lieu of most special charges, include the following fees: Matriculation, Medical, Library, Damage, Commencement, Diploma, and an average of the Laboratory and Materials Fees.

Facilities for Graduate Study



The Libraries and Research Facilities

Graduate students have access to the General Library and the various school and departmental libraries. Such collections total 1,159,500 volumes, including many large and significant special collections. Science laboratories are large and well equipped for general and special research in botany, zoology, physics, chemistry, and medicine. The Duke Forest of eight thousand acres provides a large practical laboratory for forest research. Through the University's co-operative sponsorship of the Oak Ridge Institute of Nuclear Studies, graduate students are able to use the facilities of the National Laboratories at Oak Ridge. A detailed description of the libraries and research facilities is given in the *Bulletin of the Graduate School of Arts and Sciences*.

Graduate Study in the Summer Session

Graduate students who wish to work toward advanced degrees in the Summer Session, particularly in chemistry, economics, education, English, history, mathematics, religion, sociology, Spanish, and zoology will find a wide selection of courses offered by members of the Duke faculty and by visiting professors. Other departments ordinarily offering sequences of work leading to the A.M. degree are Botany, Political Science, and Psychology. Thesis research for advanced graduate students is available also in other departments, such as Botany, Forestry, and Physics.

Students who wish to be admitted to the Graduate School for work in the Summer Session, should make application to the Dean of the Graduate School, as well as to the Director of the Summer Session, and should return the completed application, with supporting documents, before June 1, for admission to the first term, and before July 10, for admission to the second term.

Courses of Instruction



Most courses listed in this Bulletin are given on the West Campus. The letter (E) following the description means that the course is offered on the East Campus. In general, courses with odd numbers are offered in the first semester, those with even numbers in the second semester. The courses listed under the headnote to the several departments are those planned at the date of printing the Bulletin. Occasional changes may later be necessary.

AESTHETICS, ART, AND MUSIC

PROFESSOR PATRICK, CHAIRMAN; ASSOCIATE PROFESSORS HALL, MARKMAN, AND SUNDERLAND

AESTHETICS

FOR SENIORS AND GRADUATES

No graduate degree is offered in this department, but the following courses are suggested as possible minors for students majoring in history, literature, philosophy, religion, psychology, or sociology, or in any other interested departments.

In 1955-56 the courses planned are Aesthetics 221-222 and Art 215, 216, 233, 234 and 240.

221-222. HISTORY OF AESTHETICS.—Theories of art and beauty in the west-
ern world from antiquity to the present. Some attention will be given the de-
veloped theories of aesthetics in the Far East. 6 s.h. (E) PROFESSOR PATRICK

ART

FOR SENIORS AND GRADUATES

215. RELIGIOUS ART OF THE ANCIENT NEAR EAST.—A specialized study
of the development of art, particularly architecture and sculpture, as the material
expression of religious ideas in Egypt, Mesopotamia, and in part of Syria and
Palestine, to the Persian conquest. 3 s.h. (w) ASSOCIATE PROFESSOR MARKMAN

216. RELIGIOUS ART OF THE CLASSICAL WORLD.—A specialized study of
the religious art, particularly architecture and sculpture, of Greece and Rome, with
special emphasis on the monuments in the Near East. 3 s.h. (w)
ASSOCIATE PROFESSOR MARKMAN

217. AEGEAN ART.—A study of the problems of Aegean art as the forerunner
of Greek art and in relation to the contemporary civilization of the eastern Medi-
terranean world. 3 s.h. (w) ASSOCIATE PROFESSOR MARKMAN

218. EARLY GREEK ART.—A study of the problems of the origin and develop-
ment of Greek art in the Geometric period to the end of the Archaic. 3 s.h. (w)
ASSOCIATE PROFESSOR MARKMAN

233. EARLY MEDIAEVAL ARCHITECTURE.—The development of religious
architecture from the time of Constantine to the end of the First Romanesque style
in the third quarter of the eleventh century. 3 s.h. (E)
ASSOCIATE PROFESSOR SUNDERLAND

234. ROMANESQUE SCULPTURE.—The development of sculpture in western
Europe from the early Christian period through the culmination of Romanesque
art in the west portal of Chartres Cathedral. 3 s.h. (E)
ASSOCIATE PROFESSOR SUNDERLAND

240. ARCHITECTURE OF NORTH AMERICA.—A study illustrating the
transplantation of European architectural customs since the sixteenth century; the

time-lag in transit and acceptance of later European developments; the gradual assumption of confident independence in design; and the emergence of international leaders in the United States. 3 s.h. (E) ASSOCIATE PROFESSOR HALL

DIVISION OF ANCIENT LANGUAGES AND LITERATURE

PROFESSORS CLARK, DAVIES, ROGERS, AND STINESPRING; ASSOCIATE PROFESSORS ROSE, TRUESDALE, AND WAY; ASSISTANT PROFESSOR BROWNLEE

GREEK

No graduate degree is presently offered in Greek.

For 1955-56 the course planned is 257.

FOR SENIORS AND GRADUATES

201-202. GREEK TRAGEDY.—6 s.h.

ASSOCIATE PROFESSOR TRUESDALE

257. SOCIAL AND CULTURAL HISTORY OF THE HELLENISTIC WORLD FROM ALEXANDER TO AUGUSTUS.—Lectures, readings, and discussions. This course will not be separately credited without the sequel, Latin 258. 3 s.h.

PROFESSOR ROGERS

Graduate students of Duke University may attend the American School of Classical Studies in Athens, Greece, without charge for tuition, and they are eligible to compete for the fellowships that are offered annually by the School. These consist of two fellowships in Greek archaeology, and one in the language, literature, and history of ancient Greece, each with a stipend of \$2,000. They are awarded mainly on the basis of examinations held in the beginning of February of each year.

LATIN AND ROMAN STUDIES

No graduate degree is presently offered in Latin.

The course planned for 1955-56 is 258.

FOR SENIORS AND GRADUATES

211-212. ROMAN ORATORY.—A survey of the history of Roman oratory, centering about the *Brutus* of Cicero and Tacitus' *Dialogus*. 6 s.h. PROFESSOR ROGERS

258. SOCIAL AND CULTURAL HISTORY OF THE GRAECO-ROMAN WORLD.—The Roman Empire as the trustee of Hellenism and Christianity, and its own original contributions to modern civilization: lectures, readings, and discussions. This course continues Greek 257 and will not be separately credited. 3 s.h.

PROFESSOR ROGERS

SEMITICS

The courses planned for 1955-56 are 201-202, 207-208, 304, 305.

FOR SENIORS AND GRADUATES

201-202. FIRST HEBREW.—The principles and structure of the Hebrew language, with translations of selected Old Testament narratives. 6 s.h.

PROFESSOR STINESPRING

205-206. ELEMENTARY ARABIC.—Introduction to the classical language and literature, with some attention to the modern colloquial idiom. 6 s.h.

PROFESSOR STINESPRING

207-208. SECOND HEBREW.—Samuel or Kings the first semester; Isaiah the second. 6 s.h.

ASSISTANT PROFESSOR BROWNLEE

FOR GRADUATES

304. ARAMAIC.—A study of the Aramaic portions of the Old Testament and selected passages from the Targums, Midrashes, and Talmuds. 3 s.h.

PROFESSOR STINESPRING

305. THIRD HEBREW.—A study of late Hebrew prose, with readings from Chronicles, Ecclesiastes, and the Mishnah. Hours to be arranged. 3 s.h.

PROFESSOR STINESPRING

307. SYRIAC.—A study of the script and grammar, with readings from the Syriac New Testament and other early Christian documents. Some knowledge of Hebrew and Aramaic is prerequisite. 3 s.h. PROFESSOR STINESPRING

309. HISTORY OF THE ANCIENT NEAR EAST.—A survey of the early civilizations of Egypt, Palestine, Syria, and Mesopotamia in the light of Biblical archaeology. 3 s.h. PROFESSOR STINESPRING

RELATED COURSES IN OTHER DEPARTMENTS

Philosophy 217, Religion 217, 218, 220, 313, 316, 318.

Under the terms of a co-operative agreement graduate students of Duke University may, with the approval of the chairman of their major department, take any graduate course offered by the Departments of Greek and Latin of the University of North Carolina by the payment of a nominal fee. A list of these courses will be sent upon request.

BOTANY

PROFESSOR OOSTING, CHAIRMAN—102A BIOLOGY BUILDING; PROFESSOR KRAMER, DIRECTOR OF GRADUATE STUDIES—04 BIOLOGY BUILDING; PROFESSORS HARRAR, AND ANDERSON; ASSOCIATE PROFESSORS BILLINGS, HUMM, NAYLOR, AND PERRY; ASSISTANT PROFESSORS JOHNSON AND PHILPOTT

Graduate work in the Department of Botany is offered leading to the A.M. and Ph.D. degrees. Before undertaking graduate study in botany a student should have had in his undergraduate program at least 12 semester hours of botany beyond an elementary course, and related work in biological sciences. Some work in chemistry and physics will be desirable; and for some phases of botanical study, a necessity. The student's graduate program is planned to provide a broad basic training in the various fields of botany, plus intensive specialization in the field of the research problem.

The courses planned for 1955-56 are 203, 204, 218, 221, 224, 225-226, 254, 255, 257, 258, 305, 359-360, 397-398.

FOR SENIORS AND GRADUATES

202. GENETICS.—The principles of heredity, their cytological basis, and their bearing on other fields of biology. Laboratory work involves experimental breeding of the fruit fly and interpretation of data from the breeding of plants. Offered in alternate years. Prerequisites: one year of botany, zoology, or equivalent, and college algebra. 4 s.h. ASSOCIATE PROFESSOR PERRY

203. PLANT CYTOLOGY.—A study of the structure and organization of plant cells in relation to growth, reproduction, and especially heredity. Offered in alternate years. Prerequisite: one year of botany. 4 s.h. PROFESSOR ANDERSON

204. ADVANCED PLANT ANATOMY.—A study of vegetative and reproductive tissue of vascular plants including selection and preparation of fresh plant materials. An analysis of some of the significant literature bearing upon function, development, and phylogeny. Prerequisite: Botany 55 or equivalent. 4 s.h. (E)

ASSISTANT PROFESSOR PHILPOTT

216. BOTANICAL MICROTECHNIQUE.—Methods and theory in preparation of plant tissues for temporary mounts and permanent microscopical slides. Prerequisite: Two years of natural science. 4 s.h. (E) ASSISTANT PROFESSOR PHILPOTT

218. ILLUSTRATIVE TECHNIQUES.—A study of botanical illustrative methods, including theory and use of the microscope, microscopical measurements, drawing, photomicrography, botanical photography, darkroom procedures, lantern slides, and the preparation of illustrative material for publication. Prerequisites: two semesters of botany, zoology or forestry. 2 s.h. PROFESSOR ANDERSON

221. INTRODUCTORY MYCOLOGY.—Field and laboratory study of the vegetative and reproductive structures of the fungi and slime molds. Methods of collection, isolation, propagation, and identification of the major orders as represented in the local flora. Prerequisite: A year of biological science. 4 s.h.

ASSISTANT PROFESSOR JOHNSON

225-226. SPECIAL PROBLEMS.—Students with adequate training may do special work in the following fields. Credits to be arranged.

- (a) MYCOLOGY AND PLANT PATHOLOGY. ASSISTANT PROFESSOR JOHNSON
- (b) CYTOLOGY. ASSOCIATE PROFESSOR ANDERSON
- (c) ECOLOGY. PROFESSOR OOSTING AND ASSOCIATE PROFESSOR BILLINGS
- (d) GENETICS. ASSOCIATE PROFESSOR PERRY
- (e) MORPHOLOGY AND ANATOMY OF HIGHER PLANTS.
PROFESSOR HARRAR; ASSISTANT PROFESSOR PHILPOTT
- (f) MORPHOLOGY AND TAXONOMY OF LOWER GROUPS.
PROFESSORS BLOMQUIST AND ANDERSON
- (g) PHYSIOLOGY. PROFESSOR KRAMER AND ASSOCIATE PROFESSOR NAYLOR
- (i) TAXONOMY OF HIGHER GROUPS. PROFESSOR BLOMQUIST
- (m) MICROBIOLOGY. ASSOCIATE PROFESSOR HUMM

252. ADVANCED PLANT PHYSIOLOGY.—The physicochemical processes and conditions underlying the physiological processes of plants. Prerequisite: Botany 151 or equivalent; organic chemistry recommended. 3 s.h.

ASSOCIATE PROFESSOR NAYLOR

254. PLANT WATER RELATIONS.—A study of factors affecting the availability of water, its absorption and use in plants, and the effects of water deficits on plant processes. Assigned readings, reports, and lectures. Prerequisite: Botany 151 or equivalent. 3 s.h.

PROFESSOR KRAMER

255. ADVANCED TAXONOMY.—A study of the historical background of plant taxonomy, modern concepts and systems of classifications, nomenclatorial problems, and the taxonomy of specialized groups. Prerequisite: two years of botany, including Botany 52 or equivalent. 4 s.h.

PROFESSOR BLOMQUIST

256. COMMUNITY ANALYSIS AND CLASSIFICATION.—The development of concepts and methods in synecology and their present application to the study of plant communities. Prerequisite: Botany 156 or equivalent. 3 s.h.

PROFESSOR OOSTING

257. PRINCIPLES OF PLANT DISTRIBUTION.—Interpretation of the floristic and ecological plant geography of the world's vegetation. Prerequisite: Botany 156 or equivalent. 3 s.h.

ASSOCIATE PROFESSOR BILLINGS

258. PHYSIOLOGY OF GROWTH AND DEVELOPMENT.—Consideration of the internal factors and processes of new protoplasm and its differentiation at the cellular, tissue, and organ level in plants. Prerequisites: Botany 151 or equivalent; organic chemistry recommended. 3 s.h.

ASSOCIATE PROFESSOR NAYLOR

259. ENVIRONMENTAL MEASUREMENTS.—Methods of obtaining and evaluating climatological data for ecological purposes with special attention to instrumentation and microclimate. Prerequisite: Botany 156 or equivalent. 3 s.h.

ASSOCIATE PROFESSOR BILLINGS

305. VEGETATION OF NORTH AMERICA.—Distribution and limits of the major plant communities, a study in ecological plant geography. Prerequisite: Botany 156 or equivalent. 3 s.h.

PROFESSOR OOSTING

310. STRUCTURE AND CLASSIFICATION OF BRYOPHYTES AND PTERIDOPHYTES.—The morphological and systematic characteristics of mosses, liverworts, ferns, and fern allies. 4 s.h.

PROFESSOR BLOMQUIST

311. STRUCTURE AND CLASSIFICATION OF ALGAE.—The morphological and ecological characteristics of the common freshwater and marine species and the principles underlying their classification. Collecting, identification, and the making of permanent microscopical preparations. 4 s.h.

PROFESSOR BLOMQUIST

341. METHODS IN PLANT PHYSIOLOGY.—The theory and use of apparatus and methods in physiological research. 3 s.h.

PROFESSOR KRAMER AND ASSOCIATE PROFESSOR NAYLOR

359-360. **RESEARCH IN BOTANY.**—Individual investigation in the various fields of botany. Credits to be arranged.

PROFESSORS ANDERSON, BLUMQUIST, HARRAR, KRAMER, OOSTING;
ASSOCIATE PROFESSORS BILLINGS, HUMM, NAYLOR, AND PERRY;
ASSISTANT PROFESSORS JOHNSON AND PHILPOTT

397-398. **GENERAL BOTANICAL SEMINAR.**—One hour per week throughout the year. Required of all graduates majoring in botany. 2 s.h.

PROFESSORS ANDERSON, BLUMQUIST, HARRAR, KRAMER, OOSTING;
ASSOCIATE PROFESSORS BILLINGS, HUMM, NAYLOR, AND PERRY;
ASSISTANT PROFESSORS JOHNSON AND PHILPOTT

FOREST BOTANY

FOR SENIORS AND GRADUATES

224. **FOREST PATHOLOGY.**—Infectious and non-infectious diseases of forest trees, and related deterioration of forest products. Field and laboratory study of symptoms, etiology, and control. Prerequisites: Botany 1 and 2. 3 s.h.

ASSISTANT PROFESSOR JOHNSON

253. **DENDROLOGY.**—Nomenclature, classification, and identification of woody plants with special reference to species indigenous to southeastern United States and other important forest regions of temperate North America. Laboratory and field work. Prerequisite: one year of botany. 3 s.h.

PROFESSOR HARRAR

RELATED COURSES IN OTHER DEPARTMENTS

This related course may be counted toward a major in botany: Forestry 257.

CHEMISTRY

PROFESSOR SAYLOR, CHAIRMAN—115 CHEMISTRY BUILDING, ASSOCIATE PROFESSOR BRADSHER, DIRECTOR OF GRADUATE STUDIES—124 CHEMISTRY BUILDING; PROFESSORS BIGELOW, GLOCKLER (VISITING LECTURER), GROSS, HAUSER, HILL, HOBBS, AND VOSBURGH; ASSOCIATE PROFESSOR BROWN; ASSISTANT PROFESSORS KRIGBAUM, STROBEL, AND WILDER

In the Department of Chemistry graduate work is offered leading to the A.M. and Ph.D. degrees. Before undertaking a graduate program in chemistry, a student should have taken an undergraduate major in chemistry along with related work in mathematics and physics.

Graduate courses in the department are designed to provide a broad basic training in the fields of inorganic, organic, analytical, and physical chemistry. An important requirement for the Ph.D. degree is the successful completion, under the direction of a member of the Staff, of a research program leading to the solution of an original problem. The choice of the research problem, for either the A.M. or the Ph.D. degrees, will determine the field of advanced specialization.

For 1955-56 the courses planned are 206, 215, 233, 234, 251, 252, 261-262, 271, 275-276, 303, 341-342, 350, 351-352, 360, 363-364, 365-366, and 373-374.

FOR SENIORS AND GRADUATES

206. **ELEMENTS OF THEORETICAL CHEMISTRY.**—A course in the general principles of physical chemistry for students who do not present credit in calculus. Credit is not given for both 206 and 261-262. Three recitations and three laboratory hours. Prerequisites: Chemistry 70, 151-152, Physics 51-52 or 1-2 and Mathematics. 6 s.h. With the permission of the Director of Graduate Studies, graduate students from other departments may offer other advanced science courses in place of some of these prerequisites. 4 s.h.

PROFESSORS SAYLOR AND HOBBS

215. **ADVANCED INORGANIC CHEMISTRY.**—A study of modern theories of valence and molecular structure; also of inorganic compounds, particularly the less common types, illustrated by suitable laboratory preparations. Prerequisites: Chemistry 261-262, or 206. 1, 3, or 4 s.h.

PROFESSORS VOSBURGH AND HILL

216. **NUCLEAR CHEMISTRY.**—Types and elementary theory of nuclear reactions and the considerations involved in the use of tracers in chemical studies. Prerequisite: Chemistry 261-262; 262 may be taken concurrently. 1 s.h. PROFESSOR HILL

233. **INSTRUMENTAL ANALYSIS.**—Experiments in the use of physical measuring instruments in chemical analysis with special attention to optical instruments. One lecture and three laboratory hours per week. Prerequisites: Chemistry 70 and one year of physics. 2 s.h.
ASSISTANT PROFESSOR STROBEL; PROFESSORS
SAYLOR AND VOSBURGH

234. **PHYSICO-CHEMICAL METHODS OF ANALYSIS.**—Discussion of physico-chemical principles as applied to methods of instrumental analysis, illustrated by laboratory experiments, with emphasis on methods involving electrical techniques. One lecture and three laboratory hours per week. Prerequisites: Chemistry 70 and either 261-262 or 206; either of the latter may be taken concurrently. 2 s.h.

ASSISTANT PROFESSOR STROBEL; PROFESSORS
SAYLOR AND VOSBURGH

251. **QUALITATIVE ORGANIC ANALYSIS.**—Systematic identification of organic compounds, including a study of solubilities and classification reactions. One lecture and three or six laboratory hours per week. Prerequisites: Chemistry 70 and 151-152. 2 or 3 s.h.
PROFESSOR HAUSER

252. **ADVANCED ORGANIC PREPARATIONS.**—A laboratory course designed to supplement the student's knowledge of fundamental organic processes by a selected group of laboratory exercises accompanied by oral discussions of techniques and theories pertinent to the experiments. Five hours laboratory and lecture, with lectures in alternate weeks. Prerequisites: Chemistry 70 and 151-152. 2 s.h.

ASSOCIATE PROFESSOR BROWN AND PROFESSOR BIGELOW

261-262. **PHYSICAL CHEMISTRY.**—Fundamentals of general theoretical chemistry illustrated by selected laboratory experiments. Two recitations and three laboratory hours. Prerequisites: Chemistry 70, 151-152, Physics 51-52 or 1-2 and Mathematics 51-52 or equivalent. 6 s.h.
PROFESSORS HOBBS AND SAYLOR

271. **INTRODUCTION TO RESEARCH.**—Lectures on the use of chemical literature, research methods, recording and publication of results, and other topics. One lecture per week. 1 s.h.
ASSOCIATE PROFESSOR BROWN

275-276. **RESEARCH.**—The aim of this course is to give instruction in methods used in the investigation of original problems. Individual work and conferences. 2 to 6 s.h.

PROFESSORS BIGELOW, GROSS, HAUSER, HILL, HOBBS, SAYLOR,
AND VOSBURGH; ASSOCIATE PROFESSORS BRADSHAW AND BROWN;
ASSISTANT PROFESSORS KRIGBAUM, STROBEL, AND WILDER

FOR GRADUATES

303. **THERMODYNAMICS.**—Fundamental laws of thermodynamics and their applications to chemistry and physics. 3 s.h.
PROFESSORS SAYLOR AND VOSBURGH

304. **PHYSICAL CHEMISTRY OF REACTIONS.**—The theoretical aspects of reaction kinetics, chemical equilibrium, atomic and molecular forces, and the relation of these to chemical reactions are considered. Prerequisite: Chemistry 261-262. 3 s.h.
PROFESSORS HILL AND HOBBS

336. **THEORY OF ANALYTICAL CHEMISTRY.**—A study of such topics as precipitation and errors, theories of precipitation and titration, oxidation and reduction, and others, illustrated by typical analytical methods. One lecture per week. Prerequisite: Chemistry 261-262. 1 s.h.
PROFESSOR VOSBURGH

341-342. **ADVANCED ORGANIC CHEMISTRY.**—Discussion of the theories of organic chemistry with special reference in the first semester to the mechanism of reactions and in the second semester to the synthesis of some of the more complex compounds such as vitamins, hormones, and alkaloids. Undergraduates are admitted to this course only by permission of the Director of Undergraduate Studies. Prerequisite: Chemistry 151-152. 4 s.h.
PROFESSORS BIGELOW AND HAUSER

350. ORGANIC REACTIONS.—A study of the scope and limitations of the more important types of reactions of organic chemistry from the point of view of their practical use in the synthesis of organic compounds. Lectures and discussion. Prerequisites: Chemistry 251 and 341. 2 s.h. ASSOCIATE PROFESSOR BRADSHER

351-352. ADVANCED SYNTHETIC ORGANIC CHEMISTRY.—Recent advances in certain selected fields, such as the mechanism of organic reactions, medicinals, dyes, perfumes, terpenes, and alkaloids, will be discussed. The emphasis will be placed on structure studies and synthetic methods. Lecture or seminar one hour each week. 2 s.h. PROFESSORS BIGELOW AND HAUSER

360. POLYMER CHEMISTRY.—A survey of the methods of preparation of high-molecular-weight organic compounds and a study of the properties characteristic of macro-molecules in solution and in the solid state. Prerequisite: Chemistry 303. 2 s.h. ASSISTANT PROFESSOR KRIGBAUM

363-364. SPECIAL TOPICS IN PHYSICAL AND INORGANIC CHEMISTRY.—Various topics in physical and inorganic chemistry which are of special interest to the staff or students are considered, such as absorption and scattering of light, dielectric phenomena, electrode processes, electrolyte theory, ion exchange, molecular structure, solubility, and valence theory. Prerequisites: Chemistry 261-262, 303 and 304. 4 s.h. PROFESSORS GLOCKLER, GROSS, HILL, HOBBS, SAYLOR AND VOSBURGH, AND ASSISTANT PROFESSOR STROBEL

365-366. CHEMICAL PHYSICS, STATISTICAL THEORY.—General introduction to statistical mechanics and applications to chemical problems; solution theory, reaction velocity, changes of state, quantum statistics and the metallic state. Lectures, conferences, and assigned problems. 6 s.h.

367-368. CHEMICAL PHYSICS, QUANTUM THEORY OF ATOMIC AND MOLECULAR STRUCTURE.—Theory of atomic and molecular forces and the structure of matter. Lectures, conferences, and assigned problems. 6 s.h.

373-374. SEMINAR.—Required of all graduate students in chemistry. One hour a week discussion. 2 s.h.

PROFESSORS BIGELOW, GROSS, HAUSER, HILL, HOBBS, SAYLOR, AND VOSBURGH; ASSOCIATE PROFESSORS BRADSHER AND BROWN; ASSISTANT PROFESSORS KRIGBAUM, STROBEL, AND WILDER

RELATED COURSES IN OTHER DEPARTMENTS

Biochemistry and Nutrition M241, M242, M341, M343-344, M349-350, M351; and Microbiology M322.

ECONOMICS

PROFESSOR HOOVER, CHAIRMAN—320 LIBRARY; PROFESSOR SPENGLER, DIRECTOR OF GRADUATE STUDIES—322 LIBRARY; PROFESSORS BLACK, DE VYVER, HANNA, HUMPHREY, LANDON, RATCHFORD, SIMMONS, SMITH, AND VON BECKERATH; ASSOCIATE PROFESSOR MCKENZIE; ASSISTANT PROFESSORS CARTTER AND DEWEY

Graduate work in the Department of Economics is offered leading to the A.M. and Ph.D. degrees. In order to enter upon graduate work in economics a student should have completed with satisfactory grades at least 12 semester hours of undergraduate work in economics, including 6 hours of Principles of Economics. Among the undergraduate courses of distinct advantage to the graduate student specializing in economics are: General Accounting, Elementary Statistics, and basic courses in philosophy, psychology, the social sciences other than economics, and mathematics.

The fields from among which students working toward a Ph.D. degree in economics may choose for purposes of concentration are: Economic Theory, History of Economic Thought, Trade Cycle and Income and Employment Theory, Demographic and Economic Growth and Change, Economic History, Economic Systems, Industrial and Organizational Economics, International Trade, Labor Economics, Mathematical and Econometrical Economics, Money and Banking, and Public Finance. The requirements for the Ph.D. degree in economics normally include (among other things) completion of the work (or its equivalent) making up the first three of these fields, together with two additional fields; a course or its equivalent

lent in each of most of the remaining fields; adequate knowledge of statistics; and three or four courses in a minor field. When circumstances warrant, these requirements are subject to some modification.

For 1955-56 the following courses are planned for graduate students in economics and related fields: 200, 241, 244, 305, 311, 312, 313, 314, 319, 320, 329, 358, 365, 386, and the Public Control of Business Seminar. For 1956-57 the following courses are planned: 200, 237, 238, 240, 241, 243, 304, 313, 314, 315, 316, 317, 320, 330, 331, 335, 365, and the Public Control of Business Seminar.

FOR SENIORS AND GRADUATES*

233. STATE AND LOCAL FINANCE.—A study of expenditures, taxation, and financial administration in state and local governments with emphasis on current problems. Special attention will be given to research methods and materials and to the financial relations between state and local governments. 3 s.h.

PROFESSOR RATCHFORD

237-238. STATISTICAL METHODS.—A study of statistical methods appropriate for dealing with problems in business and the social sciences. In addition to developing more thoroughly the subjects considered in *Business Statistics*, the following methods will be considered: multiple, partial, and curvilinear correlation; curve fitting; probability; sampling distributions; and statistical inference. Prerequisite: Economics 138 or consent of the instructor. Either semester may be taken for credit. 6 s.h.

PROFESSOR HANNA

240. NATIONAL INCOME.—A critical survey of the conceptual framework and structure of national income and its components, the reliability of national income estimates, and their use in analyzing questions of economic policy. 3 s.h.

PROFESSOR HANNA

256. LABOR LEGISLATION AND SOCIAL INSURANCE.—A study of the relations of the state to labor problems with special reference to remedial legislation, to interference in labor disputes, and to social insurance. 3 s.h.

PROFESSOR DE VYVER

262. TRADE UNIONISM AND COLLECTIVE BARGAINING.—An intensive survey of the trade union as an economic institution is followed by a study of the principles and problems of union-management relationship as found in collective bargaining. 3 s.h.

PROFESSOR DE VYVER

275-276. ADVANCED INDUSTRIAL ACCOUNTING AND MANAGEMENT.—A comprehensive examination of the rationale and techniques of control methods used in industry. Emphasis is laid on a critical evaluation of the practices followed by job-order, process, and standard costing, as well as the economics of overhead costs. Prerequisites: Economics 171-172 and permission of the Department. 6 s.h.

PROFESSOR BLACK

FOR GRADUATES

200. INTRODUCTORY MATHEMATICAL ECONOMICS.—This course is designed to acquaint the student with the role and the use of mathematical and related methods in economic analysis. 3 s.h.

ASSOCIATE PROFESSOR MCKENZIE

241. ECONOMIC ANALYSIS.—Review of contemporary theory relating to consumer behavior, production, the firm, price formation, income distribution, and equilibrium. 3 s.h.

PROFESSOR SPENGLER

243. MATHEMATICAL ECONOMICS.—A systematic survey of mathematical economic theory. The principal topics are conditions of static equilibrium, including stability conditions, dynamic models using difference equations, and linear production models of input-output analysis and activity analysis. 3 s.h.

ASSOCIATE PROFESSOR MCKENZIE

244. INTRODUCTION TO ECONOMETRICS.—The theory of statistical model building in economics. The identifiability of parameters in a system of linear dif-

* Graduate students in economics normally will not receive credit for courses 233, 256, and 262. These courses may be taken for credit by non-economics graduate students, with the consent of the instructor.

ference equations. The statistical estimation of parameters. The design of dynamic economic models. 3 s.h. ASSOCIATE PROFESSOR MCKENZIE

304, 305. SEMINAR IN MONEY AND BANKING.—3 s.h. each.

PROFESSOR SIMMONS

311-312. HISTORY OF POLITICAL ECONOMY.—A detailed review of the development of economic theory, the tools of economic analysis, and economics as a science, together with an analysis of the circumstances affecting this development. Period covered: pre-Christian times through 1936. 6 s.h. PROFESSOR SPENGLER

313-314. SEMINAR IN ECONOMIC THEORY.—The course consists of directed research in economic theory. The primary purpose is the correction of authoritative eclecticism and its replacement by individually integrated theory. Prerequisite: Economics 241 or its equivalent. 6 s.h. PROFESSOR HOOVER

315. SEMINAR IN ECONOMIC SYSTEMS.—3 s.h.

PROFESSOR HOOVER

316. SEMINAR IN ECONOMIC FUNCTIONS OF THE STATE.—3 s.h.

PROFESSOR HOOVER

317. SEMINAR IN DEMOGRAPHIC, POPULATION, AND RESOURCE PROBLEMS.—3 s.h. PROFESSOR SPENGLER

318. GENERAL SEMINAR IN ECONOMICS.—All graduate students with economics as a major subject are members of this seminar. Reports of progress in research will be made, and there will be lectures and critical discussion by members of the Department. Year course. No credit.

ALL MEMBERS OF THE GRADUATE STAFF

319. SEMINAR IN THE THEORY AND THE PROBLEMS OF ECONOMIC GROWTH AND CHANGE.—3 s.h. PROFESSOR SPENGLER

320. SEMINAR IN TRADE CYCLE, EMPLOYMENT, AND INCOME THEORY.—3 s.h. ASSISTANT PROFESSOR CARTTER

329. FEDERAL FINANCE.—A study of the expenditures, revenues, and financial administration of the government of the United States, with emphasis on current problems. Special attention given to budgetary procedure, corporate and individual income taxes, and the financial relations between federal and state governments. Prerequisite: Economics 187 or consent of instructor. 3 s.h. PROFESSOR RATCHFORD

330. SEMINAR IN PUBLIC FINANCE.—3 s.h.

PROFESSOR RATCHFORD

331. SEMINAR IN ECONOMIC HISTORY.—3 s.h.

PROFESSOR SMITH

355. SEMINAR IN LABOR ECONOMICS.—3 s.h.

PROFESSOR DE VYVER

358. SEMINAR IN LABOR MARKET AND RELATED ANALYSIS.—3 s.h.

ASSISTANT PROFESSOR CARTTER

365. SEMINAR IN INTERNATIONAL TRADE.—3 s.h.

PROFESSOR HUMPHREY

386. SEMINAR IN LATIN-AMERICAN ECONOMIC PROBLEMS.—3 s.h.

PROFESSOR SMITH

389. SEMINAR IN INDUSTRIAL AND GOVERNMENTAL PROBLEMS.—3 s.h.

RELATED COURSES IN OTHER DEPARTMENTS

The following course carries either economics or political science credit for economics majors:

POLITICAL SCIENCE 341. SEMINAR IN PUBLIC ADMINISTRATION.—3 s.h. PROFESSOR CONNERY AND ASSISTANT PROFESSOR DEWEY

The following course, included in the curriculum of the School of Law, carries economics credit for economics majors:

PUBLIC CONTROL OF BUSINESS SEMINAR.—Intensive study of the Federal anti-trust laws and their common-law background, with emphasis on the economic policies involved. 3 s.h. PROFESSOR LIVENGOD AND ASSISTANT PROFESSOR DEWEY

Courses comprising a candidate's minor may be selected from fields of forestry, history, mathematics, philosophy, political science, psychology, and sociology and anthropology, or from an area that complements the candidate's area of research interests in economics.

EDUCATION

PROFESSOR CARTWRIGHT, CHAIRMAN—1c2 WEST DUKE BUILDING; PROFESSOR BOLMEIER, DIRECTOR OF GRADUATE STUDIES—1c1 WEST DUKE BUILDING; PROFESSORS CARR AND CHILDS; ASSOCIATE PROFESSORS EASLEY, MCLENDON, RUDISILL, STUMPF, AND WEITZ; ASSISTANT PROFESSORS COLVER, PETTY AND REYNOLDS

Graduate work in Education is offered leading to the A.M., the M.Ed., the M.A.T., the Ph.D. and the Ed.D. degrees. For each of these degrees there are specific requirements and prerequisites, all of which may be found stated in detail in this *Bulletin*, pp. 200-209. Departmental requirements and prerequisites for all of these degrees may be obtained from the Director of Graduate Studies. The courses planned for 1955-56 are: 201, 203, 204, 205, 210, 217, 224, 225, 226, 234, 235, 240, 241, 242, 243, 244, 246, 248, 267, 276, 334-335.

FOR SENIORS AND GRADUATES

201. TEACHING AND SUPERVISION OF ARITHMETIC.—This course gives special attention to the number system, the fundamental operations (with whole numbers, fractions, and decimals), percentage, and measurements. The course will consider the meaning theory, method of teaching, problem solving, evaluation, practice and drill, and selection and gradation of arithmetical contents. The course is designed for teachers and supervisors in the elementary school. 3 s.h. (E)

ASSISTANT PROFESSOR PETTY

203. PRINCIPLES OF SCHOOL ADMINISTRATION.—The fundamental facts and procedures of school administration, an analysis of the problems and policies of the organization and direction of a local school system, and the functions of the various school officials. Prerequisites: Education 103 and 88, or six semester hours of equivalent work in education. 3 s.h. (E)

PROFESSOR BOLMEIER AND ASSOCIATE
PROFESSOR STUMPF

205. CURRICULUM PROBLEMS IN SECONDARY EDUCATION.—A consideration of the aims and objectives of secondary-school subjects, emphasizing practical problems of curriculum-making in the high school. 3 s.h. (E)

PROFESSOR CHILDS

213. PROBLEMS IN THE ORGANIZATION AND ADMINISTRATION OF THE ELEMENTARY SCHOOL.—A study of the work of the elementary-school principal. 3 s.h. (E)

216. PSYCHOLOGICAL PRINCIPLES OF SECONDARY EDUCATION.—A study of adolescence and the psychology of learning as applied to teaching the principal high-school subjects. 3 s.h. (E)

PROFESSOR CHILDS

224. TEACHING THE SOCIAL STUDIES IN ELEMENTARY SCHOOLS.—This course will treat objectives, curriculum trends, methods, and materials in elementary-school social studies. Topics to receive emphasis include unit-planning, use of the textbook, the reading program, using community resources, audio-visual materials, dealing with controversial issues, teaching time and place concepts, and evaluation. Opportunity will be provided for teachers to work on their own school problems in the social studies. 3 s.h. (E)

PROFESSOR CARTWRIGHT

225. THE TEACHING OF HISTORY AND THE SOCIAL STUDIES.—Evaluation of the objectives, content, materials, and methods in the teaching of history and the social studies. 3 s.h. (E)

PROFESSOR CARTWRIGHT

226. TEACHING READING IN THE ELEMENTARY SCHOOL.—A study of the nature of the reading process and of principles, methods, and materials for the development of effective reading attitudes and skills as applied both to developmental and remedial programs. 3 s.h. (E)

ASSOCIATE PROFESSOR RUDISILL

227. **THE PSYCHOLOGY OF LEARNING: PROBLEMS.**—The major problems related to the learning process will be examined, with the experimental literature bearing on them. The curves of learning and forgetting, the distribution of practice, economical methods of learning, and the transfer of training will be the major topics considered. 3 s.h. (E)
ASSOCIATE PROFESSOR EASLEY

228. **IMPROVEMENT OF INSTRUCTION IN THE SOCIAL STUDIES.** An advanced treatment of curriculum, methods, and materials in the Social Studies. Individuals will concentrate on subjects and grade levels of their choice. 3 s.h. (E)
ASSOCIATE PROFESSOR MCLENDON

232. **SUPERVISION OF INSTRUCTION.**—A survey of supervision as a means of improving instruction and adapting the curriculum to the learner and to community needs. 3 s.h. (E) PROFESSOR CARR AND ASSOCIATE PROFESSOR MCLENDON

234. **SECONDARY-SCHOOL ORGANIZATION AND ADMINISTRATION.**—This course is designed especially for principals, teachers, and other prospective members of the secondary-school staff. The scope of secondary education is considered to encompass junior high school, regular high school, senior high, and junior college. Special treatment is given to the problems of internal organization and management. 3 s.h. (E)
PROFESSOR BOLMEIER

236. **TEACHING READING IN THE SECONDARY SCHOOL.**—A study of the nature of the reading process and of principles, methods, and materials for the development of effective reading attitudes and skills as applied both to developmental and remedial programs. The course provides practice with secondary-school children suffering reading retardation, including testing, diagnosis, and daily remedial teaching during the six-week period. For secondary-school teachers of all subjects who wish to improve the reading and study habits of their students. 3 s.h. (E)
ASSOCIATE PROFESSOR RUDISILL

240. **EDUCATIONAL AND OCCUPATIONAL INFORMATION.**—A study of the sources of occupational and educational information: methods of securing and organizing occupational information; methods of providing vocational and educational information to students through career days, college conferences, class activities, and individual counseling; methods of making job analyses and community occupational surveys. 3 s.h.
ASSISTANT PROFESSOR COLVER

241. **PRINCIPLES OF GUIDANCE.**—An historical survey of the philosophies of guidance; a study of the interrelationships between instruction, administration, and guidance in education. Prerequisite: 6 hours of psychology or educational psychology. 3 s.h.
ASSISTANT PROFESSOR COLVER

242. **MEASUREMENT OF APTITUDES, INTEREST, AND ACHIEVEMENT.**—A study of the theories and principles of psychological measurement as applied to aptitude, interest, and achievement testing. Prerequisite: 12 hours of psychology or educational psychology (6 hours of which may be taken concurrently). 3 s.h. (E)
PROFESSOR KUDER

243. **PERSONALITY DYNAMICS.**—A study of personality structure and dynamics with emphasis upon the implications for counseling and instruction. Prerequisite: 6 hours of psychology or educational psychology. 3 s.h.
ASSOCIATE PROFESSOR WEITZ

244. **COUNSELING TECHNIQUES.**—A study of individual counseling techniques including diagnosis, interviewing, program planning, and counseling evaluation. Prerequisite: Education 242 and 243 or equivalent, which may be taken concurrently. 3 s.h.
ASSOCIATE PROFESSOR WEITZ

246. **THE TEACHING OF MATHEMATICS.**—This course deals with such topics as aims, curriculum, course and lesson planning, and classroom procedure for teaching secondary-school mathematics. 3 s.h. (E) ASSISTANT PROFESSOR REYNOLDS

248. **PRACTICUM IN COUNSELING.**—Practice in individual counseling, including test administration, intake interviewing, diagnosis, counseling, program planning, report preparation, and evaluation. The student will be expected to

devote about 150 hours to case work and conferences with his supervisor. Prerequisite: Education 244. 3 s.h. ASSOCIATE PROFESSOR WEITZ

253. SCHOOL LAW.—The primary purpose of this course is to familiarize prospective school administrators and teachers with the legal features of school organization and administration. Although some attention is given to constitutional and statutory provisions, the main emphasis is upon court decisions relating to education. Students are expected to select appropriate problems in school law for intensive study. 3 s.h. (E) PROFESSOR BOLMEIER

258. EDUCATIONAL MEASUREMENTS.—A critical study of the principles and techniques involved in measurement in education, with opportunity for individual research. Prerequisite: twelve semester hours in the Department, including a course in educational psychology. 3 s.h. (E) ASSOCIATE PROFESSOR WEITZ

267. THE TEACHING OF SCIENCE IN THE ELEMENTARY SCHOOL.—This course deals with such topics as aims and values, curriculum materials, classroom and laboratory procedures, field trips, lesson planning, and grade placement for science teaching in the elementary school. 3 s.h. (E) ASSISTANT PROFESSOR REYNOLDS

276. THE TEACHING OF HIGH-SCHOOL SCIENCE.—Discussion, lectures and collateral reading, related to such topics as aims, tests, curriculum, classroom and laboratory procedure, field trips, course and lesson planning for secondary-school science. 3 s.h. (E) ASSISTANT PROFESSOR REYNOLDS

290. ADMINISTRATION OF SCHOOL PROPERTY.—Planning and management of the school plant and its equipment to meet instructional, health, and community needs for immediate and long-range purposes. This course is intended especially for teachers and principals as well as for superintendents. Areas to be treated will include site selection; trends in design, lighting, ventilation, and heating; custodial service and maintenance; and financing. 3 s.h. (E)

ASSOCIATE PROFESSOR STUMPF

FOR GRADUATES

204. THE SCHOOL AS AN INSTITUTION.—Consideration is given to the place of the school in the American social order, and its adaptation to social, economic, and political changes. Special attention is directed to the responsibility (1) of the school for seeking solutions to the perplexing problems of youth created by a changing society; and (2) of the government for providing greater equality of educational opportunities. One of the required courses for the M.Ed. degree without thesis. Open to graduate students only. 3 s.h. (E)

PROFESSOR BOLMEIER AND ASSOCIATE PROFESSOR MCLONDON

210. INTRODUCTION TO EDUCATIONAL RESEARCH.—The general purpose of this course is to give the student an overview of research, acquaint him with the nature of research processes, and develop within him an appreciation of the essential characteristics of good research work. The course is one of the four basic courses required for the Master of Education degree without thesis and is designed to be liberalizing as well as technical. Open to graduate students only. 3 s.h. (E)

ASSOCIATE PROFESSOR STUMPF

217. THE PSYCHOLOGICAL PRINCIPLES OF EDUCATION.—An advanced study of teaching, learning, and the learner. This is one of the courses required for the Master of Education degree without thesis. Selected problems guiding the reading of students will be discussed in class. Open to graduate students only. 3 s.h. (E)

ASSOCIATE PROFESSORS EASLEY AND WEITZ

235. THE NATURE, FUNCTION, AND REORGANIZATION OF THE CURRICULUM.—One of the required courses for the Master of Education degree without thesis. Selected problems guiding the reading of students. Open to graduate students only. 3 s.h. (E)

PROFESSORS CARR AND CARTWRIGHT

323. PUBLIC SCHOOL FINANCE.—A study of educational costs, sources of revenue for the support of public education, collection of revenue, basis of distribution, and accounting for funds spent. 3 s.h. (E) ASSOCIATE PROFESSOR STUMPF

334-335. SEMINAR IN SCHOOL ADMINISTRATION.—Research, field observation, and reports on significant problems in educational administration. The work will be designed to integrate knowledge and skill in such areas as personnel, finance, property, law, curriculum, and public relations. 6 s.h. each semester. (E)

PROFESSORS BOLMEIER, CARTWRIGHT; ASSOCIATE PROFESSOR STUMPF; ASSISTANT PROFESSOR PETTY

ENGLISH

PROFESSOR WARD, CHAIRMAN—325 ALLEN; PROFESSOR BAUM, DIRECTOR OF GRADUATE STUDIES—402 LIBRARY; PROFESSORS BOYCE, BRINKLEY, GILBERT, GOHDES, IRVING, TURNER, AND VISITING LECTURER WOODRESS

The department offers graduate work leading to the A.M. and Ph.D. degrees. Students intending to major in English should have taken enough undergraduate courses in literature to enable them to pursue graduate studies profitably. To satisfy the requirements for the A.M. degree a student must (a) elect 203-204 (3 or 6 semester hours); and 21 (or 18) additional semester hours; and (b) write a thesis. A statement of the requirements for the Ph.D. degree may be obtained from the Director of Graduate Studies.

In 1955-56 the courses offered are 203, 204, 215, 216, 219, 220, 223, 224, 229, 230, 233, 234, 251, 252, 270, 349, 350 *b, cd, and e.*

FOR SENIORS AND GRADUATES

201, 202. ANGLO-SAXON.—In the first semester, an introduction to the language, with the reading of selected prose and of some of the shorter poems; in the second semester, the *Beowulf*. 6 s.h.

PROFESSOR BAUM

203, 204. CHAUCER.—Reading and interpretation of the text; in the first semester, the principal *Canterbury Tales*; in the second, the *Troilus* and the minor poems. A reading report and a term paper. 6 s.h.

PROFESSOR BAUM

205, 206. MIDDLE ENGLISH.—Close study of selected texts, with attention to the development of the language and to the history of the literature from 1200 to 1400. A term paper each semester. 6 s.h.

PROFESSOR BAUM

215, 216. ELIZABETHAN DRAMA.—Careful study of one or two major dramatists (Jonson or Beaumont and Fletcher) and extensive reading in the other writers (Heywood, Ford, Massinger, Marlowe, Middleton) with emphasis on the nature and qualities of their work in relation to its historical background. Exposition of plays, reports, and a term paper each semester. 6 s.h.

PROFESSOR GILBERT

217. MILTON.—Milton's poetry and prose, with emphasis on the major poems. 3 s.h.

PROFESSOR GILBERT

218. SPENSER.—The reading of Spenser's work, with chief attention to *The Faerie Queene*. 3 s.h.

PROFESSOR GILBERT

219, 220. THE EIGHTEENTH CENTURY.—Swift, Pope, Defoe, Addison, Steele, and others are studied in the first semester; in the second, Gray, Johnson, Boswell, Goldsmith, the letter writers, and the early Romantic poets. Lectures, oral reports, and a term paper each semester. 6 s.h.

PROFESSOR IRVING

221, 222. ENGLISH LITERATURE OF THE EARLY NINETEENTH CENTURY.—The British Romantic poets and prose writers from Scott to the early Carlyle, with special attention to Wordsworth, Coleridge, and Keats. While these writers will be approached historically, the main object will be to understand and estimate the aesthetic and ethical values of their writings. Discussion and short papers. 6 s.h.

223, 224. ENGLISH LITERATURE OF THE LATER NINETEENTH CENTURY.—Some of the most important works of the period are discussed in class; the background is filled in by lectures and assigned reading. The first semester is devoted chiefly to Carlyle, Dickens, Thackeray, Tennyson, and Browning; the second semester to Arnold, Ruskin, Pater, George Eliot, Meredith, the Pre-Raphaelites, and Swinburne. A term paper each semester. 6 s.h.

PROFESSOR BAUM

227. LITERARY CRITICISM.—A study of the Greek and Roman critics, in chronological order but with emphasis on their permanent value rather than on the mere history; also of the Continental and English critics to about 1700. Lectures, reports, and a term paper. 3 s.h. PROFESSOR GILBERT

229, 230.—AMERICAN LITERATURE, 1800-1870.—The writers emphasized in the first semester are Emerson, Thoreau, and Hawthorne; in the second semester, Poe and Melville. In the first semester some attention is given also to Edwards, Franklin, Bryant, Longfellow, Holmes, Whittier, Lowell, and Parkman; and in the second semester, to Byrd, Jefferson, Paine, Freneau, Brown, Irving, Cooper, Kennedy, Simms, Timrod, and Lincoln. A term paper each semester. 6 s.h.

PROFESSOR TURNER

231. EMERSON.—A study of Emerson's ideas as reflected in selected examples of his essays and poems. One test and one term paper. 3 s.h. PROFESSOR GOHDES

232. WHITMAN.—A detailed study of *Leaves of Grass* and of selected prose works. One test and one term paper. 3 s.h. PROFESSOR GOHDES

233. AMERICAN LITERATURE 1870-1900.—Selected works of the chief authors of the period, including Whitman, Lanier, Mark Twain, James, Howells, Crane, and Emily Dickinson. The lectures will deal with the social background as well as the literary trends and the careers of the major authors. A term paper. 3 s.h.

PROFESSOR GOHDES AND VISITING LECTURER WOODRESS

234. AMERICAN LITERATURE OF THE TWENTIETH CENTURY.—Selected works of representative authors, including Dreiser, Edith Wharton, Mencken, Lewis, Willa Cather, O'Neill, Robinson, Frost, Eliot, Hemingway, and Faulkner. The lectures will deal primarily with literary trends as shaped by the social background. One test and one term paper. 3 s.h.

PROFESSOR GOHDES AND VISITING LECTURER WOODRESS

239. SHAKESPEARE.—A study of the plays and poems, with attention to sources, earlier criticism, and the work of Shakespeare's contemporaries. 3 s.h.

PROFESSOR GILBERT

245. THE EIGHTEENTH-CENTURY NOVEL.—Richardson, Fielding, Smollett, and Sterne are emphasized. Some attention is given to earlier prose fiction and to other contributing literary patterns. Lectures and short papers. 3 s.h.

PROFESSOR BOYCE

251, 252. ENGLISH LITERATURE OF THE SEVENTEENTH CENTURY.—A survey of the major works in prose, poetry, and drama from 1600 to the death of Dryden. Lectures, reports and a term paper each semester. 6 s.h. PROFESSOR WARD

269, 270. SOUTHERN LITERATURE.—The principal authors and the chief literary development from the beginning to the present. Emphasis in the first semester is on Byrd, Kennedy, Simms, Poe, Timrod, and the humorists; in the second on Lanier, Harris, Cable, Mark Twain, Ellen Glasgow, and Faulkner. Attention is given to the historical and cultural background and to literary relations extending outside the region. 6 s.h.

PROFESSOR TURNER

274. AMERICAN HUMOR.—The development of the native tradition in the Down-East humorists and the humorists of the Old Southwest. Extensive reading in Mark Twain and his contemporaries, and some attention to the continuation of the tradition after Mark Twain. 3 s.h.

PROFESSOR TURNER

FOR GRADUATES

349, 350. SEMINAR COURSES.—An introduction to bibliography and methods of research. 6 s.h.

(a) SIXTEENTH AND SEVENTEENTH CENTURIES.

PROFESSORS GILBERT AND WARD

(b) EIGHTEENTH CENTURY.

PROFESSORS IRVING AND BOYCE

(c) EARLY NINETEENTH CENTURY.

(d) LATER NINETEENTH CENTURY.

PROFESSOR BAUM

(e) AMERICAN LITERATURE.

PROFESSORS GOHDES AND TURNER

FORESTRY

PROFESSOR KORSTIAN, CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES—308 SOCIAL SCIENCE; PROFESSORS HARRAR, KRAMER, AND SCHUMACHER; ASSOCIATE PROFESSOR ANDERSON; ASSISTANT PROFESSORS JOHNSON, RALSTON, AND STOLTENBERG

Major and minor work is offered in the scientific aspects of forestry leading to the Master of Arts and Doctor of Philosophy degrees. Work for these degrees may be pursued only in forest-tree physiology, wood anatomy and properties, forest pathology, silvics, forest soils, forest mensuration, forest entomology, and forest economics. College graduates who have had specialized training in botany or soil science and in allied basic subjects, such as physics, chemistry, geology, and zoology, may pursue graduate study and research only in the specialized fields for which their previous work has qualified them. Students who do not have previous training in forestry will be required to complete a minimum of thirty semester hours of approved work in forestry as a preliminary requirement to advanced study for the A.M. and Ph.D. degrees. The holders of these degrees will not be regarded as professionally trained foresters. For information on professional training in forestry, see *Bulletin of the School of Forestry*. For detailed information concerning admission to the Graduate School and for regulations governing candidacy for the A.M. and Ph.D. degrees and for other regulations, consult the proper pages in this *Bulletin*.

FOR SENIORS AND GRADUATES

224. FOREST PATHOLOGY.—Infectious and non-infectious diseases of forest trees, and related deterioration of forest products. Field and laboratory study of symptoms, etiology, and control. Prerequisites: Botany 1 and 2, or equivalent. 3 s.h. ASSISTANT PROFESSOR JOHNSON

231. FOREST ENTOMOLOGY.—Morphology, general classification, life histories, and control of insects injurious to forest trees, logs, and lumber. 3 s.h.

ASSOCIATE PROFESSOR ANDERSON

251. SAMPLING METHODS IN FORESTRY.—Statistical background for solution of sampling problems with special reference to sample inventory of a forest property. Offered both semesters. Prerequisite: Forestry S151. 3 s.h.

PROFESSOR SCHUMACHER

252. FOREST MENSURATION.—Empirical equation and curve fitting appropriate for construction of timber yield tables, tree volume and taper tables; significance tests and graphical solution of equations. Assignments require operation of calculating machines. Prerequisite: Forestry 251. 3 s.h. PROFESSOR SCHUMACHER

254. DENDROLOGY.—Nomenclature, classification, and identification of woody plants with special reference to species indigenous to southeastern United States and other important forest regions of temperate North America. Laboratory and field work. Prerequisite: one year of botany. 3 s.h.

PROFESSOR HARRAR

257. DESIGN OF FORESTRY EXPERIMENTS AND ANALYSIS OF DATA.—Role of experimental design in field and laboratory, and statistical analysis of data as aspects of scientific method in forest research. 5 s.h.

PROFESSOR SCHUMACHER

259. PROPERTIES OF WOOD.—The chemical nature of wood substance and its industrial chemical derivatives. Wood-moisture relationships; pertinent non-mechanical physical properties; mechanical properties and factors affecting the strength of wood; standard timber testing procedures. Uses of woods as determined by their properties. Prerequisites: one year of college chemistry; one course in college physics. 3 s.h.

PROFESSOR HARRAR

260. WOOD ANATOMY.—Study of the physical features and the gross and minute structural characteristics of wood leading to the identification of the commercial woods of the United States, and the important tropical woods used in American wood-working industries. Elementary microtechnique. Prerequisite: one year of botany. 3 s.h.

PROFESSOR HARRAR

261. FOREST SOILS.—Origin, development, and classification of soils with special emphasis on those developed in humid climates; morphological, physical, and chemical properties of soils in relation to growth of trees; effect of forests on soils. Prerequisites: Chemistry 1 and 2, and Physics 1, or equivalents; physical geology, mineralogy, petrology, and analytical chemistry are also desirable. 3 s.h.

ASSISTANT PROFESSOR RALSTON

264. SILVICS.—Ecological foundations of silviculture with special reference to forest site factors; influence of forests on their environment; growth and development of trees and stands; origin, development, and classification of forest communities; methods of studying forest environments. Desirable prerequisites: plant physiology, plant ecology, and Forestry 261, or equivalent. 3 s.h.

ASSISTANT PROFESSOR RALSTON

276. FORESTRY POLICY.—Objective study and analysis of the development of public land and forestry policies in the United States, present policies of public and private forestry organizations, and current policy issues in the light of economic and other criteria. 2 s.h.

ASSISTANT PROFESSOR STOLTENBERG

277. ECONOMICS OF FORESTRY.—Principles of economics used in the analysis of factors affecting the supply of forest products, pricing of stumpage and primary forest products, factors affecting the demand for forest products, economic characteristics and problems of the major forest products industries; analysis of such specific private forestry problems as marketing, forest ownership pattern, taxation, credit, risk, and economic fluctuations. Prerequisite: at least one course in the principles of economics. 3 s.h.

ASSISTANT PROFESSOR STOLTENBERG

FOR GRADUATES

323-324. ADVANCED FOREST PATHOLOGY.—Advanced study and research on life histories and control of diseases of forest trees to meet individual needs of graduate students. Prerequisites: plant physiology and forest pathology. Credits to be arranged.

ASSISTANT PROFESSOR JOHNSON

326. ADVANCED FOREST SOILS.—Interrelations of the physical, chemical, and biological characteristics of forest and range soils. Prerequisites: analytical chemistry and Forestry 261. 3 s.h.

ASSISTANT PROFESSOR RALSTON

351-352. ADVANCED PHYSIOLOGY OF FOREST TREES.—Advanced study and research on problems in physiology of forest trees to meet individual needs of graduate students. Prerequisites: plant physiology and plant ecology or silvics. Credits to be arranged.

PROFESSOR KRAMER

356. SEMINAR IN FOREST ECONOMICS.—Examination and discussion of the application of economic concepts in forestry, the potential contribution of economic analysis to private and public forest management; current research in forest economics. Prerequisite: Forestry 277 or equivalent; courses in economic theory are desirable. 2 s.h.

ASSISTANT PROFESSOR STOLTENBERG

357-358. RESEARCH IN FORESTRY.—Credits to be arranged. Students who have had adequate training may do research under direction of members of the Faculty in the following branches of forestry:

a. **SILVICS.**—Prerequisites: Forestry 254, 261, and 264, or equivalents.

PROFESSOR KORSTIAN

b. **FOREST SOILS.**—Prerequisite: Forestry 261 or equivalent.

ASSISTANT PROFESSOR RALSTON

e. **FOREST ECONOMICS.**—Prerequisite: Forestry 277 or equivalent.

ASSISTANT PROFESSOR STOLTENBERG

f. **PROPERTIES OF WOOD.**—Prerequisites: Forestry 259 and 260, or equivalents.

PROFESSOR HARRAR

g. **FOREST MENSURATION.**—Prerequisites: Forestry S151, 251, and 252, or equivalents.

PROFESSOR SCHUMACHER

h. **FOREST ENTOMOLOGY.**—Prerequisite: Forestry 231 or equivalent.

ASSOCIATE PROFESSOR ANDERSON

GERMANIC LANGUAGES AND LITERATURE

PROFESSOR VOLLMER, CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES—106A SOCIAL SCIENCE; PROFESSOR SHEARS

The Department of German offers graduate work leading to the A.M. degree. Students who expect to major in German should have had sufficient undergraduate courses in Germanic languages to enable them to proceed to more advanced work.

Students who wish to take courses in German for a minor should normally have completed a third-year course (in exceptional cases, a second-year course) of College German with acceptable grades.

For 1955-56 the courses planned are 211-212, 213-214.

203-204. EIGHTEENTH CENTURY.—Eighteenth-century German literature in its relation to contemporary European philosophy. 6 s.h. PROFESSOR VOLLMER

207-208. GERMAN ROMANTICISM.—The course covers the entire field of German Romanticism from 1800 to 1850. 6 s.h. PROFESSOR VOLLMER

209-210. KLEIST, GRILLPARZER, AND HEBBEL.—A study of the leading representatives of German drama in the first half of the nineteenth century. 6 s.h.

211-212. HEINRICH HEINE.—A study of the German poet and his immediate successors in the movement known as *Jungdeutschland*. 6 s.h. PROFESSOR VOLLMER

213-214. LITERATURE OF THE EMPIRE, 1871-1914.—A study of the literature of this period with special emphasis on a few leading writers such as Fontane, Hauptmann, Mann, and Hesse. 6 s.h. PROFESSOR SHEARS

RELATED COURSES IN OTHER DEPARTMENTS

The following courses in other departments are recommended to students, who are majoring in Germanics, as particularly valuable in building a proper background for Germanic studies:

(a) Graduate courses in literature or philology, offered by the ancient and modern language departments, to be selected after consultation with the Germanic Department.

(b) Graduate courses in history and philosophy, offered by those departments, to be selected after consultation with the Germanic Department.

HISTORY

PROFESSOR CARROLL, CHAIRMAN—235 ALLEN; PROFESSOR WOODY, DIRECTOR OF GRADUATE STUDIES—231 ALLEN; PROFESSORS CLYDE, CURTISS, HAMILTON, LANNING, AND MANCHESTER; ASSOCIATE PROFESSORS FERGUSON, NELSON, PARKER, ROPP, AND WATSON; ASSISTANT PROFESSOR STEVENS

A student who intends to work for an A.M. degree in history must present a total of eighteen semester hours of credit for undergraduate courses in history, of which six hours must be in American History if he plans to take his major in that field.

A candidate for the degree of Doctor of Philosophy in history is required to prepare himself in four fields of history, one of which must be in American history and another in the history of Western Europe. The choice and delimitation of fields is determined in consultation with his supervisor and the Director of Graduate Studies. The Department offers graduate instruction in the following fields: Western Europe; American history; Great Britain; Latin America; American Foreign Relations; the Far East in the modern period; Russia; Military history.

Students may receive credit for either semester of a hyphenated course without taking the other semester if they obtain written permission from the instructor and the Director of Graduate Studies.

For 1955-56 the courses planned are as follows: 205-206, 209-210, 217, 218, 221-222, 227, 228, 231-232, 235, 236, 241-242, 245-246, 261-262, 263-264, 267, 268, 269, 270, 305, 315, 317, 321, 343, 312, 320.

FOR SENIORS AND GRADUATES

203-204. **THE UNITED STATES, 1850-1900.**—The rise of sectionalism, secession, wartime problems of the Union and Confederacy, political and economic adjustments of Reconstruction, the status of the Negro, the New South, problems of capital and labor, the agrarian revolt, political parties and reforms, the Spanish-American War. 6 s.h.

PROFESSOR WOODY

205-206. **THE UNITED STATES IN THE TWENTIETH CENTURY.**—The emergence of the United States as a major power; attention is focused on domestic developments and conflicting theories of expansion and federal power. Emphasis in the first semester is on the progressive era and the first World War; the second semester is devoted to the twenties and to the Franklin Roosevelt administration. 6 s.h.

ASSOCIATE PROFESSOR WATSON

209-210. **CONSTITUTIONAL HISTORY OF THE UNITED STATES, 1760 TO THE PRESENT.**—A study of the basic problems in forming the Constitution; of its development through the major crises in the history of the United States; of the effects of changing social, cultural, economic, and political conditions on the Constitution. 6 s.h.

ASSISTANT PROFESSOR STEVENS

215-216. **FOREIGN POLICY AND DIPLOMACY OF THE UNITED STATES.**—The work in the first semester, covering the period 1775-1877, deals with such topics as the origins and evolution of basic foreign policies; isolation from Europe; paramount interests in Latin America, including the Monroe Doctrine; international co-operation in the Far East. The work in the second semester, covering the period since 1877, deals with such topics as the rise of the new Manifest Destiny; beginnings of American imperialism in Latin America and the Far East; the failure of traditional neutrality in the first World War; postwar conflicts between isolation and collective security; involvement in the second World War. 6 s.h.

PROFESSOR CLYDE

217, 218. **EUROPE SINCE 1870.**—International relations since the Franco-German War is the chief subject of study in this course; special emphasis is placed upon the underlying economic and political influences. 6 s.h.

PROFESSOR CARROLL

221-222. **THE AGE OF THE RENAISSANCE.**—The decline of characteristic features of medieval civilization and the rise of modern European institutions with particular attention to intellectual movements from Dante to Erasmus. 6 s.h.

ASSOCIATE PROFESSOR NELSON

225-226. **THE AGE OF THE REFORMATION.**—A survey of European civilization from 1500 through the Peace of Westphalia. 6 s.h.

ASSOCIATE PROFESSOR NELSON

227-228. **EUROPE IN THE NINETEENTH CENTURY.**—A study, beginning with the career of Napoleon Bonaparte, of the forces and personalities influential in the nineteenth century. Emphasis in the first semester is on the problems of the biographer; in the second, on those of a student of national communities. 6 s.h.

ASSOCIATE PROFESSOR PARKER

231-232. **THE HISPANIC COLONIES AND REPUBLICS IN AMERICA.**—The development of the Iberian states as colonizing powers, the conquest of America, the Spanish treatment of the Indian, the contest between Spain and other European nations over America, the independence movement, the struggle for stable government, the rise of liberalism with special emphasis upon Mexico from the Revolution of 1910 to the present, and basic inter-American developments. 6 s.h.

PROFESSOR LANNING

233-234. **THE INSTITUTIONAL, CULTURAL, AND SOCIAL HISTORY OF HISPANIC AMERICA.**—The first semester of this course deals with subject races, the development of mixed breeds, the governmental system, the Church and the Inquisition, and Spanish culture with emphasis upon university subjects. In the second semester the work deals with the political ideas of the wars of independence, revolution and dictatorship, the rise of public education, public health, land reform, and proletarian movements. 6 s.h.

PROFESSOR LANNING

235, 236. **EUROPEAN EXPANSION OVERSEAS.**—In the first semester attention is given to the age of discovery and to the origin and development of the great European overseas empires with special emphasis on the role of the Portuguese in India and the Americas. The work of the second semester deals with the decline of the mercantile empires, the emergence of independent centers of European culture overseas (Brazil being taken as one example), and the revival of mercantile imperialism in the late nineteenth and the twentieth centuries. 6 s.h.

PROFESSOR MANCHESTER

241-242. **THE FAR EAST.**—The history of the Western impact on Eastern Asia in the 19th and 20th centuries. Emphasis is placed on such matters as commercial and colonial expansion, the opening of China and Japan, the development by the Western Powers and Japan of colonial, imperialistic, and nationalistic interests, and the rise of Communist power in Asia. 6 s.h.

PROFESSOR CLYDE

243-244. **THE UNITED STATES AND THE FAR EAST.**—An historical analysis of American relations with the peoples of Eastern Asia during the 19th and 20th centuries. 6 s.h.

PROFESSOR CLYDE

245-246. **WAR IN THE MODERN WORLD.**—This course is concerned with the relations between warfare and modern political, economic and social conditions. Special attention is given to the development of British and American military methods and to the events of the American Civil War and the two World Wars. The work in the first semester deals with Clausewitz's theories of warfare and the period from the introduction of gunpower to 1871; in the second semester there is a more detailed analysis of recent land, sea, and air warfare. 6 s.h.

ASSOCIATE PROFESSOR ROPP

261-262. **RUSSIA IN THE TWENTIETH CENTURY.**—A study of the background of the Revolution of 1917 followed by an analysis of the history and policies of the Soviet state. 6 s.h.

PROFESSOR CURTISS

263-264. **AMERICAN COLONIAL HISTORY AND THE REVOLUTION, 1606-1783.**—The growth of institutions in the English colonies; the American Revolution. 6 s.h.

PROFESSOR WOODY

267. **THE TRANSITION FROM MEDIEVAL TO MODERN ENGLAND.**—A study of the changes in English society and ideas from the time of Edward III to that of Elizabeth. 3 s.h.

ASSOCIATE PROFESSOR FERGUSON

268. **ENGLAND FROM ELIZABETH TO ANNE.**—Political, social, and intellectual problems from the late sixteenth to the early eighteenth centuries. 3 s.h.

ASSOCIATE PROFESSOR FERGUSON

269. **BRITISH HISTORY FROM 1714 to 1867.**—The interrelationship of the leadership of such men as Walpole, Chatham, Pitt, and Peel with war, revolution, and social institutions; the rise of the cabinet system; the Industrial Revolution; imperial changes; and reform. 3 s.h.

PROFESSOR HAMILTON

270. **GREAT BRITAIN AND THE COMMONWEALTH OF NATIONS, 1867 TO THE PRESENT.**—Selected illustrations of such developments as the growth of party government and the rise of Labor; the problems of a declining economy, of recruitment of rulers under mass suffrage, and of diplomacy in the wars of the Twentieth Century; the Victorian empire; and the evolution of the dominions into a Commonwealth containing Asiatic peoples. 3 s.h.

PROFESSOR HAMILTON

FOR GRADUATES

305. **SEMINAR IN THE HISTORY OF ENGLAND AND THE BRITISH EMPIRE.**—The work consists of practical training in the methods of historical research based on sources for modern British history. Year course. 2 s.h.

PROFESSOR HAMILTON

307. **SEMINAR IN AMERICAN POLITICAL HISTORY.**—Year course. 2 s.h.

315. **SEMINAR IN SOUTHERN HISTORY.**—Year course. 2 s.h.

PROFESSOR WOODY

317. SEMINAR IN RECENT EUROPEAN HISTORY.—Year course. 2 s.h.

PROFESSOR CARROLL

321. SEMINAR IN THE HISTORY OF SPAIN, HISPANIC AMERICA, AND INTER-AMERICAN RELATIONS.—Year course. 2 s.h.

PROFESSOR LANNING

336. POLITICAL HISTORY OF THE UNITED STATES, 1783-1860.—Among the topics treated are public issues, political ideas, forms of party organization, and techniques for attaining personal and party success in politics. Year course. 4 s.h.

337. SOCIAL AND ECONOMIC LIFE OF THE OLD SOUTH.—Conditions and trends in the South in respect to population movements, transportation, agriculture, slavery, urban life, commerce, manufacturing, religion, education, and other intellectual activities. Year course. 4 s.h.

343. SEMINAR IN THE HISTORY OF AMERICAN FOREIGN RELATIONS AND THE FAR EAST.—Particular attention is given to a critical examination of the bibliography of the field. Year course. 2 s.h.

PROFESSOR CLYDE

HISTORIOGRAPHY AND THE TEACHING OF HISTORY

FOR GRADUATES

312. SEMINAR IN THE TEACHING OF HISTORY IN COLLEGE.—The work in this course is intended to acquaint students with the problems involved in teaching history in college. It includes critical observation of the teaching by members of the History Staff in Duke University. Year course. 2 s.h.

PROFESSOR MANCHESTER AND PROFESSOR HAMILTON

This course is required of all candidates for the degree of Doctor of Philosophy who are in residence as many as two years at Duke University unless excused therefrom by the Department.

320. HISTORIOGRAPHY.—A critical study of the process of finding, appraising, and interpreting the sources of history and of the presentation of the results in narrative. Works of important historians from Herodotus to the present are analyzed. The student undertakes specific exercises in research, criticism, and narration. There is consideration of such general topics as schools, theories, philosophies, and the function of history. Year course. 4 s.h.

ASSOCIATE PROFESSOR NELSON

This course is required of all candidates for the degree of Doctor of Philosophy who are in residence as many as two years at Duke University unless excused therefrom by the Department.

RELATED COURSES IN OTHER DEPARTMENTS

Economics 215, 216, 231, 311-312; Political Science 223, 224, 225, 226, 227, 228, 229, 231. Religion 309, 395, 396; Sociology 382.

MATHEMATICS

PROFESSOR GERGEN, CHAIRMAN—134 PHYSICS BUILDING; PROFESSOR ROBERTS, DIRECTOR OF GRADUATE STUDIES—230 PHYSICS BUILDING; PROFESSORS CARLITZ, DRESSEL, ELLIOTT, AND THOMAS

Graduate work in the Department of Mathematics is offered leading to the A.M. and Ph.D. degrees. The student, in his undergraduate work, must have had courses in differential and integral calculus, and at least 6 semester hours of other courses in mathematics on the junior or senior level.

The A.M. degree with a major in mathematics is awarded primarily on the basis of scholarship. Of the 24 semester hours of course work required for this degree, 18 semester hours must be taken in the Department of Mathematics.

The Ph.D. degree in mathematics is awarded upon the demonstration of ability and training in research. The original dissertation, therefore, becomes the most important of the formal requirements for this degree.

Because of the important literature of mathematics written in German and French, the student must have a practical reading knowledge of these languages near the beginning of his graduate study.

For 1955-56 the courses planned are 227-228, 253-254, 285, 286, 291-292, 371-372.

FOR SENIORS AND GRADUATES

227-228. **THEORY OF NUMBERS.**—Congruences, arithmetic functions, compound moduli, quadratic reciprocity, Gauss sums, quadratic forms, sums of squares. Prerequisite: calculus. 6 s.h. PROFESSOR CARLITZ

229-230. **ALGEBRAIC NUMBERS.**—Ideals, unique factorization, divisors of the discriminant, determination of the class number. Prerequisite: theory of equations. 6 s.h. PROFESSOR CARLITZ

235-236. **ABSTRACT ALGEBRA.**—Groups, fields, rings, matrices, quadratic and bilinear forms, general Galois theory, hypercomplex systems. Prerequisite: calculus. 6 s.h. PROFESSOR CARLITZ

247-248. **ARITHMETIC OF POLYNOMIALS.**—Field theory, detailed study of finite fields, special polynomials and functions, valuation theory, the zeta function. Prerequisite: Mathematics 235 or consent of the instructor. 6 s.h. PROFESSOR CARLITZ

253-254. **DIFFERENTIAL GEOMETRY.**—Curves and surfaces in three-dimensional Euclidean space, applicability, differential parameters, Riemannian geometry of n -space. Prerequisite: calculus. 6 s.h. PROFESSOR THOMAS

255-256. **PROJECTIVE GEOMETRY.**—Postulational, synthetic treatment centering around Desargues' theorem and the principle of projectivity. Conics, coordinates, order, continuity, metric properties. Prerequisite: calculus. 6 s.h. PROFESSOR THOMAS

271-272. **INTRODUCTORY TOPOLOGY.**—Topological properties of Euclidean spaces, set-theoretic and combinatorial methods. Prerequisite: calculus. 6 s.h. PROFESSOR ROBERTS

285. **MATHEMATICAL ANALYSIS FOR CHEMISTS AND PHYSICISTS.**—Vectors, line and surface integrals, tensors, complex variables, differential and integral equations. Prerequisite: Mathematics 53. 3 s.h. PROFESSOR DRESSEL

286. **MATHEMATICAL ANALYSIS FOR CHEMISTS AND PHYSICISTS.**—Wave equation, Fourier series, heat equations, telegraphic equation, Legendre polynomials, Bessel functions, Schrödinger's equation. Prerequisite: Mathematics 53. 3 s.h. PROFESSOR DRESSEL

291-292. **THEORY OF FUNCTIONS.**—Limits, implicit functions, power series, double series, Cauchy's theorem and its applications, residues, Riemann surfaces, conformal mapping. Prerequisite: calculus. 6 s.h. PROFESSOR GERGEN

FOR GRADUATES

325-326. **REAL VARIABLE.**—Number system, Lebesgue and Stieltjes integrals, topics in Fourier series. Prerequisite: Mathematics 291-292. 6 s.h. PROFESSOR GERGEN

337-338. **EXISTENCE THEOREMS.**—Systems of partial differential equations, Pfaffian systems, theorems of Cauchy, Riquier, and Cartan, singular integral varieties. Prerequisite: Mathematics 291-292. 6 s.h. PROFESSOR THOMAS

343-344. **ORDINARY DIFFERENTIAL EQUATIONS.**—Solution by separation of variables, exact differentials, integrating factors, solution in series. Cauchy's existence theorem, linear differential systems, singular points, partial differential equations equivalent to ordinary systems. Prerequisite: Mathematics 291-292. 6 s.h. PROFESSOR THOMAS

371-372. **DIMENSION THEORY.**—Abstract spaces, separation theory for Euclidean spaces, dimension theory. Prerequisite: Mathematics 271-272. 6 s.h. PROFESSOR ROBERTS

PHILOSOPHY

PROFESSOR NEGLEY, CHAIRMAN—3-I-2 WEST DUKE BUILDING; PROFESSOR BAYLIS, DIRECTOR OF GRADUATE STUDIES—3-I-3 WEST DUKE BUILDING; PROFESSOR PATTERSON;
ASSISTANT PROFESSORS BUCK, CLARK, PEACH, AND WELSH

The Department of Philosophy offers graduate work leading to the A.M. and Ph.D. degrees. Students may specialize in any of the following fields; The History of Philosophy; Logic; Philosophy of Science; Epistemology; Metaphysics; Philosophical Analysis; Ethics; Aesthetics; Political Philosophy; Philosophy of Religion; and Philosophy of Law.

Individual programs of study are developed to meet each student's needs. The following requirements, however, are fundamental: (1) in February of their first year new graduate students in philosophy who are not then taking the Preliminary Examinations for the Ph.D. are required to take Qualifying Examinations in the history of philosophy, ancient and modern, and in logic, both classical and symbolic. A student's achievement on these examinations will be regarded as indicative of his ability to undertake advanced graduate work. (2) Preliminary Examinations for the Ph.D., which may be taken only after a student has met the language requirements for that degree, should be passed during the first year of study beyond the A.M. degree. In these examinations students are expected to combine historical knowledge with critical understanding.

Work in a minor field outside of the Department, but not necessarily confined to any one department, must include six hours for the A.M. and twelve for the Ph.D. and may include more as a student's program requires or permits.

For 1955-56 the courses planned are as follows: 202, 205, 211, 219, 220, 227, 228, 232, 241, 250, 331 (cc), 332 (b).

FOR SENIORS AND GRADUATES

202. PHILOSOPHY OF ART.—A study of some fundamental issues in aesthetics, with particular reference to the fields of literature, music, and painting. Problems discussed include: the nature and purposes of the arts; meaning in the arts; art and morality; the role of standards in art criticism; aesthetic judgment; interpretation and evaluation. 3 s.h. (E)
ASSISTANT PROFESSOR WELSH

Offered every year.

203. CONTEMPORARY ETHICAL THEORIES.—Critical discussion and evaluation of the ethical views of twentieth century British and American philosophers. 3 s.h. (E)
PROFESSOR BAYLIS

Offered in 1956-7 and in alternate years.

205. EPISTEMOLOGY.—A critical and evaluative study of rival theories of meaning, truth and knowledge, of the nature and grounds of a priori knowledge, and of the nature of empirical knowledge and the types of empirical evidence. 3 s.h. (E)
PROFESSOR BAYLIS

Offered every year.

208. POLITICAL PHILOSOPHY.—Analysis of the structure of social organization with particular reference to the nature of political and legal institutions. 3 s.h. (E)
PROFESSOR NEGLEY

Offered in 1956-7 and in alternate years.

210. PHILOSOPHY OF RELIGION.—A critical and constructive study of the nature of religion, of its various forms and manifestations, and of its functions in human life. 3 s.h. (E)
PROFESSOR PATTERSON

Offered in 1956-7.

211. PLATO.—An examination of Plato's views with respect to knowledge, reality, and the state. 3 s.h. (E)
PROFESSOR PATTERSON

Offered in 1955-6 and in alternate years.

217. ARISTOTLE.—An analysis of Aristotle's views with respect to knowledge, reality, and the state. 3 s.h. (E)
PROFESSOR PATTERSON

Offered in 1956-7 and in alternate years.

218. **MEDIEVAL PHILOSOPHY.**—A study of the philosophy of the Middle Ages with special attention to selected texts from the works of Christian, Jewish and Arabian philosophers. 3 s.h. (E) PROFESSOR PATTERSON

Offered in 1956-7 and in alternate years.

219. **KANT.**—Reading and discussion of his philosophy, with some attention to historical continuity. 3 s.h. (E) PROFESSOR NEGLEY

Offered in 1955-6 and in alternate years.

220. **THE POST-KANTIANS.**—The development from Kant through Fichte and Schelling to Hegel; emphasis on the Hegelian dialectic and its influence on political and legal philosophy. 3 s.h. (E) PROFESSOR NEGLEY

Offered in 1955-6 and in alternate years.

222. **REASON AND COMMON SENSE IN 17TH AND 18TH CENTURY BRITISH THOUGHT.**—Studies in the theories of reason and sentiment following Hobbes, and the development of opposition among rational, common sense and empirical theories of knowledge and conduct. Readings in Cumberland, Shaftesbury, Hutcheson, Reid and others. 3 s.h. (E) ASSISTANT PROFESSOR PEACH

Offered in 1956-7 and in alternate years.

223. **CONTEMPORARY PHILOSOPHY: IDEALISM.**—Examination and analysis of the idealist position in recent and contemporary philosophy, with special attention to the works of F. H. Bradley and the British Idealists. 3 s.h. (E) PROFESSOR NEGLEY

Offered in 1956-7 and in alternate years.

224. **CONTEMPORARY PHILOSOPHY: REALISM.**—A critical analysis, comparison and evaluation of the several varieties of recent realistic theories, presentative and representative. 3 s.h. (E) PROFESSOR BAYLIS

Offered in 1956-7 and in alternate years.

225. **BRITISH EMPIRICISM.**—A critical study of the writings of Locke, Berkely, and Hume, with special emphasis on problems in the theory of knowledge. 3 s.h. (E) PROFESSOR BAYLIS

Offered in 1956-7 and in alternate years.

227. **CONTINENTAL RATIONALISM.**—A critical study of the writings of Descartes, Spinoza, and Leibnitz, with special emphasis on problems in the theory of knowledge and metaphysics. 3 s.h. (E) ASSISTANT PROFESSOR PEACH

Offered in 1955-6.

228. **RECENT AND CONTEMPORARY PHILOSOPHY.**—A critical study of outstanding philosophical views from Schopenhauer to the present. 3 s.h. (E) ASSISTANT PROFESSOR PEACH

Offered in 1955-6 and in alternate years.

232. **SPECIAL PROBLEMS IN THE PHILOSOPHY OF SCIENCE.**—Selected topics concerning the methods of the sciences and the philosophy of science. 3 s.h. (E) ASSISTANT PROFESSOR CLARK

Offered every year.

236. **ORIENTAL PHILOSOPHY.**—A study of the genesis of philosophical ideas in the Upanishads and the Bhagavadgita, and of the developments of the orthodox systems and of the philosophies of the Jains and the Buddhists. 3 s.h. (E) PROFESSOR PATTERSON

Offered in 1957-8 and every third year.

241. **LOGIC.**—Fundamental Problems of Logic. 3 s.h. (E) ASSISTANT PROFESSOR CLARK

Offered every year.

250. **PHILOSOPHICAL ANALYSIS.**—A critical study of recent and contemporary essays in philosophical analysis, and an evaluation of the nature, methods, and results of this movement. 3 s.h. (E) PROFESSOR BAYLIS AND ASSISTANT

Offered in 1955-6 and in alternate years.

PROFESSOR BUCK

252. **METAPHYSICS.**—A critical and evaluative study of rival metaphysical theories and their bases. Analysis of the fundamental metaphysical categories and of metaphysical methods. 3 s.h. (E) PROFESSOR BAYLIS

FOR GRADUATES

331, 332.—Seminars in Special Fields of Philosophy. 3 s.h. (E)

Offered as occasion arises.

ALL MEMBERS OF THE GRADUATE STAFF

- (a) Logic
- (b) Ethics
- (c) Aesthetics
- (d) Philosophy of Religion
- (e) History of Philosophy

- (aa) Philosophy of Science
- (bb) Political Philosophy
- (cc) Epistemology
- (dd) Metaphysics
- (ee) History of Philosophy

351, 352. SEMINAR IN THE TEACHING OF PHILOSOPHY.—Required of all candidates for the Ph.D. degree in Philosophy. Discussion of the problems of teaching philosophy at the undergraduate level. Practice teaching in occasional undergraduate sections. 1 s.h. (E)

ALL MEMBERS OF THE GRADUATE STAFF

Offered every year.

PHYSICS

PROFESSOR NIELSEN, CHAIRMAN—119 PHYSICS BUILDING; ASSOCIATE PROFESSOR GREULING, DIRECTOR OF GRADUATE STUDIES—213 PHYSICS BUILDING; PROFESSORS GORDY, NEWSON, NORDHEIM, AND SPONER; ASSOCIATE PROFESSOR FAIRBANK; ASSISTANT PROFESSORS LEWIS, BLOCK, AND WILLIAMSON

The Department of Physics offers graduate work leading to the A.M. and Ph.D. degrees. Course work is designed to give a broad basic foundation in classical and modern physics. All graduate students will be expected to acquire a thorough knowledge of the various branches of classical physics and some familiarity with modern physics and with basic laboratory skills. They will be required to take such course work in the 200 number courses as may be necessary to obtain this foundation.

The student will be required to take such course work as will best be adapted to the kind of work he will subsequently specialize in and to the kind of research he will undertake. The choice of minor will be similarly determined.

Since a practical reading knowledge of French and German is highly desirable for the student of physics, he should satisfy these language requirements as early as possible.

For 1955-56 the courses planned are: 201-202, 213-214, 217-218, 219-220, 303, 315-316, 323, 324, 331, 335, 351-352.

FOR SENIORS AND GRADUATES

201-202. MECHANICS.—The fundamental principles of Newtonian mechanics; general dynamics of systems of particles, and rigid bodies; the methods of Lagrange and Hamilton; generalized mechanics. Prerequisite: Physics 125. 6 s.h.

ASSISTANT PROFESSOR WILLIAMSON AND
PROFESSOR NORDHEIM

213-214. CONTEMPORARY PHYSICS.—A course which covers the fundamental concepts and the experimental basis of modern physics. Three lectures each week. 6 s.h.

ASSISTANT PROFESSOR LEWIS

217-218. ADVANCED PHYSICS LABORATORY.—Measurements involving the fields of mechanics, electricity, magnetism, heat, sound, optics and modern physics. 2-6 s.h.

ALL MEMBERS OF THE GRADUATE STAFF

219. ELECTRICITY AND MAGNETISM.—Fundamentals of electricity and magnetism. Motion of charged particles in fields and the physics of electron tubes. Direct and alternating current circuits and networks. Electromagnetic waves. 3 s.h.

ASSISTANT PROFESSOR LEWIS

220. ELECTRON TUBE CIRCUITS.—Linear circuit analysis, rectifiers, filters, linear amplifiers, feedback, noise, power amplifiers, oscillators, modulation, relaxation oscillators. 3 or 4 s.h.

ASSISTANT PROFESSOR WILLIAMSON

FOR GRADUATES

303-304. THERMODYNAMICS AND STATISTICAL MECHANICS.—Fundamental laws of thermodynamics and statistical mechanics with applications to physics and chemistry. Gas laws; transport phenomena; elements of quantum statistics. 6 s.h. ASSOCIATE PROFESSORS FAIRBANK AND GREULING

306. LOW TEMPERATURE PHYSICS.—A study of the properties of matter near the absolute zero of temperature; superconductivity, liquid helium, adiabatic demagnetization. Prerequisite: Physics 303. 3 s.h. ASSOCIATE PROFESSOR FAIRBANK

315-316. PRINCIPLES OF QUANTUM THEORY.—Original and fundamental concepts of quantum theory; wave and matrix mechanics; theory of measurements; exclusion principle and electronic spin. Prerequisite: Physics 201-202. 6 s.h. PROFESSOR NORDHEIM

318-319. ELECTROMAGNETIC FIELD THEORY.—Electrostatics and potential theory; dielectric and magnetic media; the magnetic field of currents and the law of induction. Maxwell's electrodynamics; theory of wave optics; refraction; interference, and diffraction. Crystal optics. Prerequisites: Physics 126, 175. 6 s.h. ASSOCIATE PROFESSOR GREULING

320. THEORY OF ELECTRONS.—Lorentz' equations of electrodynamics. Classical theories of dispersion, magnetism, and conductivity. Theory of relativity. Prerequisite: Physics 318-319. 3 s.h. ASSOCIATE PROFESSOR GREULING

323. THEORY OF ATOMIC SPECTRA.—Excitation of spectra, computation of wave lengths from photographs of spectra, study of the structure of atomic spectra with applications. 3 s.h. PROFESSOR SPONER

324. THEORY OF MOLECULAR SPECTRA.—A study of the structure of molecular spectra with applications. 3 s.h. PROFESSOR SPONER

331. MICROWAVE RADIATION.—Microwave generators, cavity resonators, transmission lines, radiation propagation and detection. 4 s.h. PROFESSOR GORDY

335. MICROWAVE SPECTROSCOPY.—Application of microwaves in the determination of molecular, atomic and nuclear properties. Stark and Zeeman effects in microwave spectroscopy. Magnetic resonance absorption. 3 s.h. PROFESSOR GORDY

340. STRUCTURE OF MATTER.—Selected topics dealing with the constitution of matter, such as crystal structure and x-rays, the solid state and problems of molecular structure. 2 s.h. PROFESSOR SPONER

341. ADVANCED TOPICS IN QUANTUM THEORY.—Quantum theory of radiation and collisions with special reference to nuclear and high energy physics. Prerequisite: Physics 315-316. 3 s.h. PROFESSOR NORDHEIM

343. NUCLEAR PHYSICS.—Elementary theory of the deuteron; low energy neutron proton scattering; theory of nuclear reactions; penetration of potential barriers; nuclear energy levels. Prerequisite: Physics 315. 3 s.h. PROFESSOR NEWSON

344. ADVANCED NUCLEAR PHYSICS.—The deuteron, nuclear forces, scattering of elementary particles, beta-radiation. Other aspects of nuclear physics susceptible of theoretical interpretation. Prerequisite: Physics 343. 3 s.h. PROFESSOR NORDHEIM

351-352. SEMINAR.—A series of weekly discussions on topics related to the research projects under investigation in the Department. 2 s.h. ALL MEMBERS OF THE GRADUATE STAFF

POLITICAL SCIENCE

PROFESSOR RANKIN, CHAIRMAN—308 LIBRARY; PROFESSOR WILSON, DIRECTOR OF GRADUATE STUDIES—405 NEW TOWER, LIBRARY; PROFESSORS COLE, CONNERY, HALLOWELL, AND VON BECKERATH; VISITING PROFESSOR REDFORD; ASSOCIATE PROFESSOR BRAIBANTI

The Department of Political Science offers graduate work leading to the A.M. and Ph.D. degrees. Instruction is designed to prepare the student for teaching,

for government service, and for other work related to public affairs. Before undertaking graduate study in political science, a student is ordinarily expected to have completed at least 12 semester hours of course work in political science, including some work in American government.

Fields of political science in which instruction is at present offered for candidates for the degree of Doctor of Philosophy are the following: American Government and Constitutional Law; Comparative Government; Political Theory; American State and Local Government; International Law; Public Administration. Candidates for the degree of Doctor of Philosophy who propose to major in political science must elect five fields, including Comparative Government and Political Theory; at least one of the five fields must be taken in a department other than the Department of Political Science.

In 1955-56 the courses planned are 207, 209, 211, 212, 223, 224, 225, 226, 227-228, 229, 230, 231, 235, 241, 246, 271, 291, 310, 321, 325, 328, and 341.

FOR SENIORS AND GRADUATES

207. AMERICAN CONSTITUTIONAL LAW AND THEORY.—A study of leading principles of American government, as developed through judicial interpretation of the Constitution. 3 s.h.

PROFESSOR RANKIN

209. PROBLEMS IN STATE AND LOCAL GOVERNMENT IN THE UNITED STATES.—A study of the historical development of state and local governments, their present organizations and subdivisions, and their relation to each other. Special attention is given to the position of the states in the federal union through the study of federal-state, inter-state, and state-local relations. 3 s.h.

PROFESSOR RANKIN

211. POLITICAL INSTITUTIONS OF THE FAR EAST.—An analysis of the ideas underlying the development of government in Japan, China, and Korea. Study of the writings of Lao-tse, Confucius and the sacred books of Buddhism and Shinto. Particular attention is given to the theory of Confucian bureaucracy, the Taikwa Reform, the development of the Tokugawa administrative state, the constitutional reforms of Sun Yat-sen in China and of the Meiji Era in Japan. 3 s.h.

ASSOCIATE PROFESSOR BRAIBANTI

212. INTERNATIONAL POLITICS OF THE FAR EAST.—An analysis of the relations of China, Japan, and Korea *inter se* and with outside powers, with emphasis upon changing power relationships within the Asian cultural sphere. 3 s.h.

ASSOCIATE PROFESSOR BRAIBANTI

221. INTERNATIONAL PUBLIC ORGANIZATION.—A study of the structure and functioning of the United Nations organs, of related specialized agencies such as the International Labor Organization, and of regional agencies such as the Organization of American States. 3 s.h.

PROFESSOR WILSON

223. POLITICAL THOUGHT TO THE SEVENTEENTH CENTURY.—A survey from the time of Plato to the close of the seventeenth century; Graeco-Roman, Patristic and Germanic thought; individualism and cosmopolitanism; effect of the Church-State controversy and the conciliar movement; medieval constitutionalism; legislative sovereignty. 3 s.h.

PROFESSOR WILSON

224. MODERN POLITICAL THEORY.—An historical survey and philosophical analysis of political theory from the beginning of the seventeenth to the middle of the nineteenth century. Attention is given to the rise of liberalism, the Age of Enlightenment, the romantic and conservative reaction, idealism and utilitarianism. 3 s.h.

PROFESSOR HALLOWELL

225. COMPARATIVE GOVERNMENT.—A comparative study of modern political institutions with particular attention to European constitutional government and politics. 3 s.h.

PROFESSOR COLE

226. COMPARATIVE GOVERNMENT.—A comparative study of modern political institutions with particular attention to European authoritarian and dictatorial government and politics. 3 s.h.

PROFESSOR COLE

227-228. **INTERNATIONAL LAW.**—Elements of international law, particularly as interpreted and applied by the United States; rights and duties of states with respect to recognition, state territory and jurisdiction, nationality, diplomatic and consular relations, treaties, treatment of aliens, pacific settlement of disputes, international regulation of the use of force, and collective security. 6 s.h.

PROFESSOR WILSON

229. **RECENT AND CONTEMPORARY POLITICAL THEORY.**—The rise of positivism and its impact upon modern political thought, the origins of socialism, Marxism and its variants, socialism in the Soviet Union, nationalism, Fascism and National Socialism, the crisis in modern democracy, Christianity and the social order. 3 s.h.

PROFESSOR HALLOWELL

230. **AMERICAN POLITICAL INSTITUTIONS.**—A study of the formation and development of institutions of the national government in the United States, with historical and analytical treatment. Among other topics this course is concerned with the Constitutional Convention of 1787, and the development of Congress, the Presidency, and the Supreme Court. 3 s.h.

PROFESSOR RANKIN

231. **AMERICAN POLITICAL THEORY.**—An analysis of the main currents in American political thought from colonial beginnings to the present day, with emphasis upon the development of liberalism in America. 3 s.h.

PROFESSOR HALLOWELL

235. **THE BRITISH COMMONWEALTH.**—An analysis of the political relationships between the members of the Commonwealth and a comparative study of the governments of the Dominions, with particular reference to Canada. 3 s.h.

PROFESSOR COLE

241. **ADMINISTRATIVE MANAGEMENT.**—An advanced course in public administration with special attention being given to the development of scientific management, its application to government in the United States and a consideration of current problems in organization, procedures, work simplification, and management improvement. 3 s.h.

PROFESSOR CONNERY AND VISITING

PROFESSOR REDFORD

242. **NATIONAL ADMINISTRATION.**—A study of the administrative organization, working concepts and procedures of the United States Government, illustrated through the operations of the Bureau of the Budget. 3 s.h.

PROFESSOR CONNERY

246. **GOVERNMENT ADMINISTRATION AND PUBLIC POLICY.**—Through use of the laboratory and case study techniques, a consideration of the types of administrative problems that the United States Government encounters in the field of public policy, and their possible solution. 3 s.h.

PROFESSOR CONNERY

271. **SOCIOPOLITICS AND CAPITALISM.**—Labor and labor policies in Western Europe and the United States in the nineteenth and twentieth centuries; the development of monopoly power and political power of labor in recent decades. 3 s.h.

PROFESSOR VON BECKERATH

291. **PROBLEMS OF MUNICIPAL GOVERNMENT.**—An analysis of problems relating to the structural system and activities of municipalities in the United States. 3 s.h.

PROFESSOR RANKIN

292. **MUNICIPAL ADMINISTRATION.**—A study of principles and methods relating to municipal administration in the United States. 3 s.h.

PROFESSOR RANKIN

FOR GRADUATES

301-302. **DEPARTMENTAL GRADUATE SEMINAR.**—An introduction to research methodology, inter-disciplinary relationships and current research problems. Required of all graduate majors in political science. No credit.

PROFESSORS WILSON, RANKIN, COLE, HALLOWELL, CONNERY, BRAIBANTI,
OTHER MEMBERS OF THE FACULTY AND VISITING LECTURERS

310. **SEMINAR IN STATE GOVERNMENT.**—Open to students who have completed course 209 or its equivalent. 3 s.h.

PROFESSOR RANKIN

311. SEMINAR IN FAR EASTERN POLITICS.—Open to students who have completed course 211 or its equivalent. 3 s.h. ASSOCIATE PROFESSOR BRAIBANTI

321. SEMINAR IN POLITICAL THEORY.—Open to students who have completed 6 semester hours in Political Science 223, 224, 229, 231 or their equivalents. 3 s.h. PROFESSOR HALLOWELL

325. SEMINAR IN COMPARATIVE GOVERNMENT.—Open to students who have completed courses 225 and 226 or their equivalents. 3 s.h. PROFESSOR COLE

328. SEMINAR IN INTERNATIONAL LAW.—Open to students who have completed course 227-228 or its equivalent. 3 s.h. PROFESSOR WILSON

341. SEMINAR IN PUBLIC ADMINISTRATION.—Open to students whose admission is approved by the instructor. 3 s.h. PROFESSOR CONNERY AND VISITING PROFESSOR REDFORD

RELATED COURSES IN OTHER DEPARTMENTS

Economics 233, 237-238, 315, 316, 329, 365; History 215-216, 217-218, 233-234, 261-262; Philosophy 208; Religion 224, 394; Sociology 382.

RELATED COURSE WORK IN THE SCHOOL OF LAW

There may be graduate credit for course work completed in the Duke University School of Law, under the regulations referred to on page 00 of this *Bulletin*.

PSYCHOLOGY

PROFESSOR RODNICK, CHAIRMAN—107 BIVINS HALL; PROFESSOR ZENER, DIRECTOR OF GRADUATE STUDIES—205 PSYCHOLOGICAL LABORATORY; PROFESSOR RODNICK, DIRECTOR OF CLINICAL TRAINING; PROFESSORS ADAMS, DAI, KOCH, KUDER, AND LUNDHOLM; ASSOCIATE PROFESSORS BANHAM, COHEN, GARMEZY, AND KIMBLE; ASSISTANT PROFESSORS BORSTELMANN, COLLIER, GUTTMAN, AND JONES

The Department of Psychology offers advanced work in general experimental psychology leading to the A.M. and Ph.D. degrees and in clinical psychology leading to the Ph.D. only.

Whatever the field of psychology in which a student eventually specializes, he is required to have a thorough background in the facts, methods, and theories of general psychology. Graduate programs are arranged to achieve this common background primarily during the first year, with specialization in course work reserved for subsequent years.

Normally, the candidate for the Ph.D. degree is expected, by the end of his second year, in addition to having worked out a program of studies, to have passed his language examinations, a departmental qualifying examination in his area of intended doctoral research, and the preliminary examination. By this time also his doctoral dissertation subject should be formulated. Emphasis is laid upon the completion of the dissertation, directed by a member of the staff, demonstrating competence and independence in the investigation of an original and significant problem.

As an integral part of their academic work during the first, second and fourth years, students specializing in clinical psychology will undertake field work in a variety of clinical settings. In addition, they will normally spend the third year in an appropriate, approved internship. The fourth year will be spent in residence at Duke University to complete the dissertation.

The field of minor work is not restricted, but it may be pointed out that the fields most relevant to graduate study in psychology are philosophy of science, sociology and anthropology, physiology, neuroanatomy, mathematics, and education.

Further details concerning the program of studies in psychology may be obtained from the Director of Graduate Studies in Psychology.

For 1955-56 the courses planned are 201-102, 203, 206, 209, 212, 215, 221-222, 223 (second semester only), 265, 266, 303-304, 305, 306, 308, 309, 310, 312, 313, 335-336, 341, 342, 371.

FOR SENIORS AND GRADUATES

201-202. PROSEMINAR.—An integrated core curriculum in general psychology, designed to provide an advanced background in the principles, and the empirical and theoretical methods, of the major fields of psychology. The topics include: scientific methods in psychology, biological foundations of behavior, motivation, learning, perception, behavior development, personality, the social determinants of behavior, and contemporary psychological theories. Required of all first year students. 9 s.h. fall semester, 6 s.h. spring semester.

PROFESSORS ADAMS, KOCH, KUDER, RODNICK, AND ZENER;
ASSOCIATE PROFESSORS BANHAM AND KIMBLE; ASSISTANT
PROFESSORS COLLIER AND GUTTMAN

203. DYNAMIC PSYCHOLOGY: CONATION AND OUR CONSCIOUS LIFE.—A systematic presentation of the psychology of adult human achievements, adaptive as well as creative, with emphasis upon the significance of these endeavors of the acts of experiencing. 3 s.h.

PROFESSOR LUNDHOLM

206. SOCIAL PSYCHOLOGY.—Kinds of membership character; psychology of social movements; propaganda; revolution; nationalism; war. 3 s.h.

PROFESSOR ADAMS AND ASSISTANT PROFESSOR JONES

209. EXPERIMENTAL METHODS IN PSYCHOLOGY.—A study of methods for the identification, control, and recording of essential variables in psychological situations, with emphasis upon the relation of experimental techniques to problem formulation. Laboratory, lectures, and discussions. 3 s.h.

PROFESSORS ADAMS AND ZENER; ASSOCIATE PROFESSOR KIMBLE;
ASSISTANT PROFESSORS COLLIER AND GUTTMAN

212. PHYSIOLOGICAL PSYCHOLOGY.—An advanced study of the interrelationships between psychological and physiological processes. 3 s.h.

ASSISTANT PROFESSOR GUTTMAN

215. DEVELOPMENTAL PSYCHOLOGY.—The environmental forces conditioning the development of personality structure and the mechanisms contributing to psychological growth; critical periods in character formation from infancy to senescence. 3 s.h.

PROFESSOR ADAMS

221-222. PROPRACTICUM.—Lectures, demonstrations and practice in the use of basic procedures, projective and non-projective, employed in clinical psychology; principles of interpretation and reporting of test findings. Laboratory periods will be held in clinical field facilities. 3 s.h. each semester.

ASSISTANT PROFESSOR GARMEZY AND ALL MEMBER
OF THE CLINICAL STAFF

223. ABNORMAL PSYCHOLOGY.—A systematic presentation of the psychology of functional mental disorders with emphasis on its bearing upon general psychological theory. 3 s.h.

PROFESSOR LUNDHOLM

236. THEORETICAL PSYCHOLOGY.—This course is devoted to the analysis of techniques of theory construction in psychology. The discussion of these methodological issues is co-ordinated with the analysis of concrete formulations in contemporary psychological theory. 3 s.h.

PROFESSOR KOCH

242. MEASUREMENT OF APTITUDES, INTEREST, AND ACHIEVEMENT (also listed as Education 242).—A study of the theories and principles of Psychological measurement as applied to aptitude, interest, and achievement testing. 3 s.h.

PROFESSOR KUDER

265. FUNDAMENTAL STATISTICAL PROCEDURES IN PSYCHOLOGY.—An introduction to the topics of distribution functions, large and small sample analyses, analysis of variance and experimental design. Prerequisite: Psychology 120 or equivalent. 3 s.h. [Second semester.]

ASSISTANT PROFESSOR COLLIER

266. ADVANCED STATISTICS OF PSYCHOLOGICAL INVESTIGATION.—A continuation of Psychology 265 with the treatment of the following topics: non-parametric methods, correlation, multiple and partial correlation, and curve fitting. Prerequisite: Psychology 265. 3 s.h. First semester.

ASSISTANT PROFESSOR COLLIER

- 303-304. RESEARCH.—2 or 3 s.h. ALL MEMBERS OF THE GRADUATE STAFF
305. PSYCHOPATHOLOGY.—An examination of behavior disorders, with particular emphasis on explanatory concepts and the evidence from research in this field. 3 s.h. PROFESSOR RODNICK
306. SEMINAR IN DEVELOPMENTAL PSYCHOLOGY.—2 or 3 s.h. PROFESSOR ADAMS
308. SEMINAR IN PSYCHOPATHOLOGY AND PERSONALITY THEORY.—3 s.h. PROFESSOR RODNICK
309. PROBLEMS OF LEARNING.—3 s.h. ASSOCIATE PROFESSOR KIMBLE
310. SEMINAR: SELECTED PROBLEMS IN THE DYNAMICS OF BEHAVIOR.—3 s.h. PROFESSOR ZENER
312. SEMINAR IN THEORETICAL PSYCHOLOGY.—3 s.h. PROFESSOR KOCH
320. SEMINAR IN THE THEORY OF MENTAL TESTS.—3 s.h. PROFESSOR KUDER
322. SEMINAR IN PERSONNEL PSYCHOLOGY.—3 s.h. PROFESSOR KUDER
- 335-336. CLINICAL PSYCHOLOGY PRACTICUM.—Seminar discussion and supervised field experience in the application of basic psychological procedures and principles to clinical cases in a variety of institutional settings. Prerequisite: Psychology 221 and 22. 3 s.h. each semester. ASSOCIATE PROFESSOR COHEN AND ALL MEMBERS OF THE CLINICAL STAFF
341. SOCIETY, CULTURE AND BEHAVIOR DISORDERS.—A critical survey of current theories of the structure and genesis of psychoneurosis, with particular stress on psychoneurotic disturbances as problems of the self in relation to society and culture. 3 s.h. Second semester. PROFESSOR DAI
342. PRINCIPLES OF PSYCHOTHERAPY.—A critical study of the current methods of treating behavior disorders, such as brief psychoanalytic therapy, non-directive methods and group procedures. Stress is laid on integration of the best workable procedures into a set of psychotherapeutic principles in a socio-psychological frame of reference as discussed in Psychology 341, which is a prerequisite: Case material will be used for purposes of illustration. 3 s.h. PROFESSOR DAI
- 344-345. ADVANCED SEMINAR IN CLINICAL PSYCHOLOGY. 1 s.h. each semester. ALL MEMBERS OF CLINICAL STAFF
371. PRE-SCHOOL BEHAVIOR PROBLEMS.—3 s.h. ASSOCIATE PROFESSOR BANHAM

RELATED COURSES IN OTHER DEPARTMENTS

Education 208A, 208B, 209, 217, 227, 228, 240, 241, 244, 248, 258, 318; Philosophy 104, 203, 208, 223, 224, 232, 242, 301, 331-332a; Sociology and Anthropology 212, 238, 243, 246, 249, 271, 276, 330, 380; Zoology, 229, 324, 341, 351-352, 355-356; Physiology 261-262; Anatomy 204.

RELIGION

PROFESSOR SMITH, DIRECTOR OF GRADUATE STUDIES—308 DIVINITY SCHOOL; PROFESSORS BEACH, CLARK, CUSHMAN, DAVIES, PETRY, AND STINESPRING; ASSISTANT PROFESSORS BROWNLEE AND SCHAFER

The Department of Religion offers graduate work leading to the A.M. and Ph.D. degrees. Students may major in one of three fields: (1) Biblical Studies; (2) Studies in Church History; and (3) Studies in Christian Thought. They will be expected to take such courses in one or both of the other fields as will conduce to an adequate understanding of their chosen fields of specialization.

In addition to course work in these major fields, students will take such other courses in cognate fields as will contribute to the enrichment of their major studies. For those majoring in Biblical Studies, courses in ancient language and literature are suggested; for those majoring in Church History, courses in history are sug-

gested; and for those majoring in Studies in Christian Thought, courses in philosophy, political science, and sociology are suggested.

Students who intend to become candidates for the Ph.D. degree should take the required language examinations in both French and German not later than the beginning of the second year of residence.

For 1955-56 the courses planned are 201-202, 207-208, 217, 218, 304, 305, 310, 311, 312, 313, 316, 317, 318, 319, 322, 325, 326, 331, 336, 391, 392, 393, 394, 395, 396, 495, 498.

FIELD I. BIBLICAL STUDIES

201-202. **FIRST HEBREW.**—The principles and structure of the Hebrew language with translation of selected Old Testament narratives. 6 s.h.

PROFESSOR STINESPRING

207-208. **SECOND HEBREW.**—Samuel or Kings the first semester and Isaiah the second. 6 s.h.

ASSISTANT PROFESSOR BROWNLEE

217. **THE NEW TESTAMENT IN GREEK.**—Extensive reading of the Greek text of the New Testament, with special emphasis upon its interpretation. 3 s.h.

PROFESSOR CLARK

218. **GALATIANS AND I CORINTHIANS.**—A detailed study of two of Paul's major epistles, based on the Greek text. 3 s.h.

PROFESSOR DAVIES

220. **I PETER AND THE GOSPEL OF JOHN.**—A detailed study of two of the non-Pauline writings of the New Testament. The course will be based on the Greek text. 3 s.h.

PROFESSOR DAVIES

301. **THE RELIGIOUS THOUGHT OF POST-EXILIC JUDAISM.**—A study of the development of religious ideas in Post-Exilic Judaism. 3 s.h.

ASSISTANT PROFESSOR BROWNLEE

304. **ARAMAIC.**—A study of the Aramaic portions of the Old Testament, and selected passages from the Targums, Midrashes, and Talmuds. Hours to be arranged. 3 s.h.

PROFESSOR STINESPRING

305. **THIRD HEBREW.**—A study of late Hebrew prose, with readings from Chronicles, Ecclesiastes, and the Mishnah. Hours to be arranged. 3 s.h.

PROFESSOR STINESPRING

306. **ADVANCED HEBREW.**—A course on the Dead Sea Scrolls. 3 s.h.

ASSISTANT PROFESSOR BROWNLEE

307. **SYRIAC.**—A study of the script and grammar, with readings from the Syriac New Testament and other early Christian documents. Some knowledge of Hebrew and Aramaic prerequisite. 3 s.h.

PROFESSOR STINESPRING

309. **HISTORY OF THE ANCIENT NEAR EAST.**—A specialized study of the civilizations of Egypt, Palestine, Syria, and Mesopotamia in the light of Biblical archaeology. 3 s.h.

PROFESSOR STINESPRING

310. **OLD TESTAMENT PROPHECY.**—The prophetic movement in Israel with special emphasis on the prophets of the eighth century B.C. 3 s.h.

PROFESSOR STINESPRING

311. **THE LIFE AND TEACHINGS OF JESUS.**—A study of the events and sayings of the historical Jesus, in the light of His mission. 3 s.h.

PROFESSOR CLARK

312. **ADVANCED NEW TESTAMENT THEOLOGY.**—An examination of the central aspects of New Testament theology. 3 s.h.

PROFESSOR DAVIES

313. **THE APOSTOLIC FATHERS.**—A study of the Christian development from Clement of Rome to Polycarp (90-155 A.D.), with readings in the Greek text. 3 s.h.

PROFESSOR CLARK

314. **PATRISTIC THOUGHT.**—A study of the development of early Christian doctrine to the period of Irenaeus. 3 s.h.

PROFESSOR DAVIES

316. **HELLENISTIC RELIGIONS.**—A study of the Gentile religions in the Roman Empire, at the beginning of the Christian era. 3 s.h. PROFESSOR CLARK

317. **THE SYNOPTIC GOSPELS.**—A detailed study of their characteristics and contents, based upon the Greek text, with attention to their respective sources and to the development of synoptic criticism. 3 s.h. PROFESSOR CLARK

318. **TEXTUAL CRITICISM OF THE NEW TESTAMENT.**—A study of the scientific recovery of the Greek text on which modern versions are based; manuscript discoveries; principles of textual criticism; practice in collating original manuscripts in the Duke collection. 3 s.h. PROFESSOR CLARK

319. **JUDAISM AND EARLY CHRISTIANITY.**—A special study of the relation between Judaism and early Christianity. 3 s.h. PROFESSOR DAVIES

RELATED COURSES IN OTHER DEPARTMENTS

Greek 257; Latin 258; Aesthetics, Art, and Music 215, 216.

FIELD II. STUDIES IN CHURCH HISTORY

330. **THE CHURCH IN EUROPE SINCE 1800.**—Emphasis is placed on the relation of the Church to the social, economic, and political life of Modern Europe. 3 s.h. PROFESSOR PETRY

331. **THE SOCIAL MESSAGE OF THE EARLY AND MEDIEVAL CHURCH.**—A study of the social teachings and contributions of the Christian Church prior to the Protestant Reformation. 3 s.h. PROFESSOR PETRY

332. **THE MEDIEVAL CHURCH.**—Outstanding characteristics of the Medieval Church, emphasizing theory, polity, institutions, sacraments, and worship. 3 s.h. PROFESSOR PETRY

334. **CHURCH REFORMERS AND CHRISTIAN UNITY.**—The work of such reformers as Marsilius of Padua, William of Ockham, Jean Gerson, Pierre d'Ailly, and Nicholas of Cusa in relation to ecclesiastical schism and the search for Christian unity through representative councils. 3 s.h. PROFESSOR PETRY

336. **HISTORY OF CHRISTIAN RENUNCIATION IN THE MIDDLE AGES.**—A study of the renunciatory ideal and spiritual practices with special reference to Benedictines, Franciscans, Lowland Mystics, and leading seculars. 3 s.h. PROFESSOR PETRY

RELATED COURSES IN OTHER DEPARTMENTS

History 221-222, 225-226; Ancient Languages and Literatures 257-258.

FIELD III. STUDIES IN CHRISTIAN THOUGHT

224. **CONCEPTIONS OF MAN IN WESTERN THOUGHT.**—An analysis and interpretation of important types of philosophical and theological theory. 3 s.h. PROFESSOR CUSHMAN

321. **PLATONISM AND CHRISTIANITY.**—An analysis of Plato's religious philosophy and a survey of its continuing influence in Hellenistic and Christian thought. 3 s.h. Prerequisite: Permission of the instructor. PROFESSOR CUSHMAN

322. **THEOLOGY AND PHILOSOPHY IN THE NINETEENTH CENTURY.**—Protestant thought from Schleiermacher to Troeltsch together with representative theologians of Britain. 3 s.h. PROFESSOR CUSHMAN

323. **HISTORY OF CHRISTIAN THOUGHT I.**—An historical study of theology in the ancient and medieval church. 3 s.h. ASSISTANT PROFESSOR SCHAFER

324. **HISTORY OF CHRISTIAN THOUGHT II.**—An historical study of theology from the Reformation. 3 s.h. ASSISTANT PROFESSOR SCHAFER

325. **PHILOSOPHICAL THEOLOGY I.**—Constructive approach to the problem of faith and reason. 3 s.h. PROFESSOR CUSHMAN

326. **PHILOSOPHICAL THEOLOGY II.**—Main problems in the history of philosophical theology. 3 s.h. PROFESSOR CUSHMAN

328. SEMINAR IN TWENTIETH CENTURY CONTINENTAL AND BRITISH THEOLOGY.—Critical examination of the thought of Barth, Brunner, Berdyaev, Maritain, F. R. Tennant, and William Temple. 3 s.h. PROFESSOR CUSHMAN

391. HISTORICAL TYPES OF CHRISTIAN ETHICS I.—A critical study of representative statements of Christian ethical theory, through the early Reformation. Prerequisite: C.E. 27 or its equivalent. 3 s.h. MR. BEACH

392. HISTORICAL TYPES OF CHRISTIAN ETHICS II.—A continuation of C.E. 391, from the Reformation through current Christian ethical theory. Prerequisite: C.E. 391. 3 s.h. MR. BEACH

393. THE CHRISTIAN INTERPRETATION OF HISTORY.—A comparative examination of the chief secular and Christian theories of history current in Western thought. 3 s.h. PROFESSOR BEACH

394. CHRISTIANITY AND THE STATE.—The relation of the Christian theory of the State to political problems, with special consideration of the religious assumptions underlying democratic theory and practice and of the relationship of church to state. 3 s.h. PROFESSOR BEACH

395. RELIGIOUS THOUGHT IN COLONIAL AMERICA.—Consideration of the principal types of Protestant thought in colonial culture. 3 s.h. PROFESSOR SMITH

396. AMERICAN RELIGIOUS THOUGHT IN THE NINETEENTH CENTURY.—Comparative exposition of Orthodoxy and Liberalism. 3 s.h. PROFESSOR SMITH

397. CURRENT AMERICAN THEOLOGY.—Critical appraisal of conflicting tendencies in American theological thought. 3 s.h. PROFESSOR SMITH

398. MODERN AMERICAN CHRISTOLOGY.—An analysis of the historical development of modern American conceptions of the person and work of Christ. 3 s.h. PROFESSOR SMITH

495. SEMINAR: JONATHAN EDWARDS AND JOHN WESLEY.—A comparative study of the major theological works of Edwards and Wesley. 2 s.h. PROFESSOR SMITH

498. SEMINAR: THEOLOGY OF PAUL TILLICH.—An examination of Tillich's philosophical theology. 2 s.h. PROFESSOR SMITH

RELATED COURSES IN OTHER DEPARTMENTS

Political Science 229, 231.

OTHER COURSES

Certain other courses listed in this bulletin and the *Bulletin of the Divinity School* may be taken for graduate credit provided that at the time of registration they are approved by the Director of Graduate Studies in Religion and by the Dean of the Graduate School.

ROMANCE LANGUAGES

PROFESSOR JORDAN, CHAIRMAN—214 CARR; PROFESSOR WALTON, DIRECTOR OF GRADUATE STUDIES—207 GRAY; PROFESSORS DAVIS AND PREDMORE; ASSOCIATE PROFESSORS CASTELLANO AND DEMOREST

The Department of Romance Languages offers graduate work leading to the A.M. and Ph.D. degrees. In order to undertake graduate study in this Department, the student should normally have credit for four years of college courses in the chosen language, or 18 semester hours beyond the conventional two units offered at entrance to college. In addition to this minimum requirement, the student should have had one semester of review in composition and grammar.

It is recommended that candidates for the A.M. degree take a second Romance Language as the minor subject.

A candidate for the Ph.D. degree should be equipped to follow graduate courses

in a second Romance Language. For this degree some training in Romance Linguistics will be required, the amount to be determined by the Department upon consideration of the student's preparation in the field.

Graduate students in this Department will be required to maintain oral practice in their major language through non-credit exercises provided by the Department.

For 1954-55 there will be offered throughout the year at least three courses in each language.

FRENCH

FOR SENIORS AND GRADUATES

210. THE AGE OF RICHELIEU.—An introduction to French life and thought in the literature of the early seventeenth century. The transition from the Renaissance to classical culture. Discussions of the baroque, the *Libertins*, the scientific rationalists, the Counter Reformation. Extensive reading in Corneille and Pascal. Lectures in French. 3 s.h. ASSOCIATE PROFESSOR DEMOREST

213. FRENCH CLASSICISM.—Its initial phase. Readings from Malherbe, Molière, Racine, Boileau, La Fontaine, La Rochefoucauld, Madame de Sévigné, La Bruyère, and others. 3 s.h. PROFESSOR WALTON

214. FRENCH CLASSICISM.—Its final phase. Readings from Fontenelle, Saint-Simon, Abbé Prévost, Marivaux, Lesage, Montesquieu, Voltaire, and others. Main emphasis on Voltaire. 3 s.h. PROFESSOR WALTON

215, 216. THE MODERN FRENCH NOVEL.—A survey of the novel form from the seventeenth to the twentieth century, with particular attention to the analysis of fundamental literary trends; classicism, rationalism, romanticism, and realism. 6 s.h. PROFESSOR JORDAN

225. POLITICAL AND RELIGIOUS LITERATURE IN THE ROMANTIC PERIOD.—The Romantic outlook as it shapes political and religious literature from the Consulate to the Revolution of 1848. The mystics of conservatism, the prophets of a Romantic faith, and the heralds of a social republic. Lectures in French. 3 s.h. ASSOCIATE PROFESSOR DEMOREST

227. FRENCH POETRY SINCE THÉOPHILE GAUTIER.—Readings from the principal figures of the Parnassian and Symbolist movements, including Baudelaire, Leconte de Lisle, Heredia, Verlaine, Rimbaud, Mallarmé and Régnier. 3 s.h. PROFESSOR WALTON

238. ANATOLE FRANCE.—Analysis of the principal phases of his work and its relation to the French tradition. Reading of his poetry, *Le Crime de Sylvestre Bonnard*, *Thaïs*, *Le Jardin d'Epicure*, *Les Dieux ont Soif*, *Le Lys Rouge*, *L'Île des Pingouins*, parts of *La Vie Littéraire*. 3 s.h. PROFESSOR WALTON

FOR GRADUATES

323, 324. REALISM AND NATURALISM.—Literary doctrines and practices in the generation of 1850-90, with particular reference to the background of scientific thinking. 6 s.h. PROFESSOR JORDAN

325, 326. FRENCH LITERATURE IN THE SIXTEENTH CENTURY.—Main attention is given to Rabelais, Montaigne, Marot, Ronsard, Du Bellay. Principal movements treated are: Humanism, Hellenism, Platonism, Petrarchism, the *Pléiade*. 6 s.h. PROFESSOR WALTON

333, 334. CONTEMPORARY FRENCH LITERATURE.—The twentieth century is examined mainly with reference to the originality of its contribution in the domain of ideas and literary forms. Only the leading figures are read extensively: Rolland, Gide, Proust, Duhamel, Valéry. 6 s.h. PROFESSOR JORDAN

350. NINETEENTH-CENTURY FRENCH CRITICISM.—A survey of critical doctrines and practices from Sainte-Beuve to the end of the century, including Brunetière, Faguet, Lemaître, France, Doumic and others. 3 s.h. PROFESSOR JORDAN

SPANISH

FOR SENIORS AND GRADUATES

257. OLD SPANISH LANGUAGE.—The historical development of the language together with illustrative readings. 3 s.h. PROFESSOR DAVIS

258. OLD SPANISH LITERATURE.—The literature of the Middle Ages and Early Renaissance. 3 s.h. PROFESSOR DAVIS

260. ADVANCED COMPOSITION AND SYNTAX.—Study of fundamental difficulties in the language; practice in writing idiomatic Spanish; exercises in free composition. For students who have a satisfactory command of Spanish grammar and fair conversational ability. Prerequisite: Spanish 173-174 or permission. 3 s.h. ASSOCIATE PROFESSOR CASTELLANO

261. NINETEENTH CENTURY NOVEL.—A study of literary and social trends in the last half of the nineteenth century. Readings will be selected from the novels of Valera, Pereda, Galdós, Pardo, Bazán, Blasco Ibáñez, and their contemporaries. 3 s.h. PROFESSOR DAVIS

264. MODERN AND CONTEMPORARY SPANISH THEATER.—A brief review of the modern and contemporary Spanish Theater from the period of Romanticism. Lectures, reading and discussion of the most representative works of Benavente, Martínez Sierra, los hermanos Quintero, etc. 3 s.h. ASSOCIATE PROFESSOR CASTELLANO

265. GOLDEN AGE LITERATURE: CERVANTES.—The life and thought of Cervantes with special emphasis on his *Quijote*. 3 s.h. PROFESSOR PREDMORE

266. GOLDEN AGE LITERATURE: THE DRAMA.—Study of the chief Spanish dramatists of the seventeenth century with readings of representative plays of this period. 3 s.h. ASSOCIATE PROFESSOR CASTELLANO

270. THE SPANISH LANGUAGE IN AMERICA.—Development of the Spanish language from the time of the Discovery to the present. 3 s.h. PROFESSOR PREDMORE

275. CONTEMPORARY SPANISH LITERATURE.—Essay and Lyric Poetry. A study of the revision of national values and literary expression in the twentieth century with particular reference to the crisis of 1898 and to the enrichment of the Spanish tradition through extra-peninsular influences. 3 s.h. PROFESSOR PREDMORE

276. CONTEMPORARY SPANISH LITERATURE.—Novel. A study of tradition and innovation in the twentieth century Spanish novel with emphasis on the novels of Unamuno, Baroja, Valle Inclán, and Pérez de Ayala. 3 s.h. PROFESSOR PREDMORE

SOCIOLOGY AND ANTHROPOLOGY

PROFESSOR JENSEN, CHAIRMAN—215E SOCIAL SCIENCE BUILDING; PROFESSOR HART, DIRECTOR OF GRADUATE STUDIES—215D SOCIAL SCIENCE BUILDING; PROFESSOR THOMPSON; ASSOCIATE PROFESSORS LABARRE AND SCHETTLER; ASSISTANT PROFESSOR ROY

The Department of Sociology and Anthropology offers graduate work leading to the A.M. and Ph.D. degrees. Before undertaking advanced work in this department, a student must have completed a minimum of twelve semester hours of approved preliminary courses in the field, and twelve additional semester hours in the field or in related work. A student who is deficient in the minimum required work will be asked to take additional undergraduate courses agreed upon in conference with the Director of Graduate Studies.

Candidates for advanced degrees in sociology usually take minor work in psychology, economics, political science, education, history, or religion. Detailed requirements for the minor work, and for majors in other departments who wish to present sociology as minor work, may be obtained from the Director of Graduate Studies.

The courses planned for 1955-56 are 212, 213, 214, 217, 233, 235, 237, 238, 243,

246, 250, 261, 271, 273, 276, 286, 292, 293, 330, 340, 380, 381, 382, 391. Either 91-92, 93 or 94, or 101 is prerequisite for all courses.

ANTHROPOLOGY

212. **PRIMITIVE RELIGION.**—The ethnography, the social functions and the socio-psychological meanings of religion in primitive societies. 3 s.h.

ASSOCIATE PROFESSOR LABARRE

213. **PERSONALITY AND SOCIETY.**—The sociology and social psychology of human personality, its origins in the primary group, its nature and varieties and its integrations into secondary group institutions. 3 s.h.

ASSOCIATE PROFESSOR LABARRE

214. **PERSONALITY AND CULTURE.**—The influence of culture patterns and social institutions upon character structure, socialization of the individual, and the dynamics of human personality. Comparative anthropological materials will be drawn upon. Prerequisite: course 213. 3 s.h. ASSOCIATE PROFESSOR LABARRE
(Admission to 213 and 214 only by consultation with the instructor.)

215. **THE AMERICAN INDIAN.**—A comprehensive survey of the Indians of North and South America, including a study of origins and prehistory, archaeology, physical anthropology, languages, material culture, social and political organization, economics and religion, discussed in terms of the "culture area" concept, and illustrated with the ethnography of a characteristic tribe from each area. 3 s.h.

ASSOCIATE PROFESSOR LABARRE

217. **THE PEOPLES OF AFRICA, ASIA, AND OCEANIA.**—A comprehensive survey of the non-European peoples of the Old World, covering available pre-history, archaeology, racial affiliations, languages, material culture, social and political organization, economics, and religion, discussed in terms of the "culture area" concept, and illustrated with the ethnography of a characteristic tribe from each area. 3 s.h.

ASSOCIATE PROFESSOR LABARRE

330. **SEMINAR IN ANTHROPOLOGY.**—A seminar for advanced students who wish to pursue individual studies in racial or cultural anthropology. 1 to 3 s.h. *each semester.*

ASSOCIATE PROFESSOR LABARRE

COMMUNITY, RACE AND CULTURE

233. **RURAL SOCIOLOGY.**—The sociology of the land; peasant and folk societies and cultures; patterns of rural settlement like the farm, the plantation, the ranch and others; rural personality types; the changing character of rural life; rural problems. 3 s.h. Second semester.

PROFESSOR THOMPSON

235. **URBAN SOCIOLOGY.**—A study of the city and civilization, the newspaper, the social survey, the slum and housing, neighborhoods and natural areas, urban institutions, urban problems, and city planning. 3 s.h.

PROFESSOR THOMPSON

237. **COMMUNITY AND SOCIETY.**—This course seeks to provide a frame of reference for the analysis and ordering of facts pertaining to the diverse cultures of the world, the State, the world community, the Great Society, news, mass behavior, social problems, races and classes. 3 s.h.

PROFESSOR THOMPSON

238. **RACE AND CULTURE.**—A study of the nature of race and of the relationships and problems of race. 3 s.h.

PROFESSOR THOMPSON

340. **SEMINAR.**—Methodological problems involved in the study of race relations, urban and rural life, the South and society generally. 3 s.h. *each semester.*

PROFESSOR THOMPSON

COLLECTIVE BEHAVIOR

243. **SOCIAL ATTITUDES AND COLLECTIVE BEHAVIOR.**—Study of attitudes as products of social interaction; organization of attitudes into personal behavior patterns; expression of social attitudes in social, political and industrial groups; social unrest and the behavior of crowds and mobs; analysis of social movements, strikes, revolutions, and other group organizations. 3 s.h.

ASSOCIATE PROFESSOR SCHETTLE

246. PUBLIC OPINION AND PROPAGANDA.—Nature and development of public opinion; relation to attitudes, biases, stereotypes and controversial issues; role of leaders, pressure groups and minority groups; use of radio, press, motion picture and graphic arts; propaganda and censorship; measurements of public opinion. 3 s.h.
ASSOCIATE PROFESSOR SCHETTLER

250. MARRIAGE AND THE FAMILY.—An analysis of contemporary marriage and family experience with emphasis on its functions, problems, resources and values. Not open to students who have received credit for Religion 170. 3 s.h.
PROFESSOR HART

SOCIAL ORGANIZATION AND DISORGANIZATION

261. PROBLEMS IN INDUSTRIAL SOCIOLOGY.—Sociological analysis of human relations problems that confront administrators of industrial institutions and leaders in industrial community life. In this course emphasis falls on the examination of concrete case materials and the appraisal of published research with consideration of possibilities for further development of scientific procedures in the field of industrial sociology. 3 s.h.
ASSISTANT PROFESSOR ROY

271. SOCIAL PATHOLOGY.—A study of the causes, extent, significance, and constructive treatment of the principal forms of pathology in modern society; natural disasters, poverty, physical defectiveness, malnutrition, mental deficiency, mental disease, undirected leisure activities and unstandardized commercial recreation, alcoholism, prostitution, vagrancy, and delinquency. (Not open to students who have had Sociology S274.) 3 s.h.
PROFESSOR JENSEN

273. SPECIAL PROBLEMS IN SOCIAL PATHOLOGY.—Research projects in social and personal disorganization, limited to advanced students with the approval of the instructor. 1 to 3 s.h. *each semester*.
PROFESSOR JENSEN

276. CRIMINOLOGY.—A study of the original tendencies of man and the problem of socializing these tendencies; the relation of physical and mental defectiveness and untoward influence in the home and neighborhood to crime; the development of criminological theory and procedure, emphasizing penal and reform methods, and especially modern methods of social treatment and prevention of crime. 3 s.h.
PROFESSOR JENSEN

380. SEMINAR IN APPLIED SOCIOLOGY.—Special research problems in social pathology, child welfare, criminology, and related topics. 1 to 3 s.h. *each semester*.
PROFESSOR JENSEN

SOCIAL THEORY

286. SOCIAL ETHICS.—A study of sociological fundamentals underlying ethics, including the controversy between materialistic and idealistic social thinkers, the nature of personalities and of social organization, the nature of social values, types of social interaction and their effects upon general social values, underlying principles and facts of social change, and the bearings of all these upon certain social problems. 3 s.h.
PROFESSOR HART

288. CONTEMPORARY PROBLEMS IN CULTURAL LAG.—An exploration of such sociological problems as social evolution, cultural lag, conflict, accommodation, leadership, and social reform, in relation to the crisis of civilization precipitated by the development of the atomic bomb and by kindred discoveries and inventions. 3 s.h.
PROFESSOR HART

381. PRINCIPLES OF SOCIOLOGY.—A critical study of sociological theory. The sociological theories of recent writers will be critically examined with a view to laying the foundation for a constructive theory of the social life in modern biology and psychology. Discussions and papers by the class. 3 s.h.
PROFESSOR JENSEN

382. HISTORY OF SOCIOLOGICAL THEORY.—Lectures on the development of social thought from Aristotle to the present; the social philosophies of Plato, Aristotle, St. Augustine, Thomas Aquinas, Machiavelli, Bodin, Hobbes, Locke, Vico, Montesquieu, Rousseau, Condorcet, and the sociological systems of Comte, Spencer,

Schäffle, Lilienfeld, Gumpłowicz, Ratzenhofer, and Ward will, among others, be considered. A large amount of assigned reading will be required in this course. The student is advised to correlate this course with related courses in economics, history, political science, and philosophy. 3 s.h.

PROFESSOR JENSEN

METHODS OF SOCIAL RESEARCH

292. STATISTICAL TECHNIQUES IN SOCIOLOGY.—Intended for graduate students, and for undergraduates who are ready to undertake original statistical research projects. 3 s.h. (*first semester*.)

PROFESSOR HART

293. SPECIAL PROBLEMS IN SOCIAL STATISTICS.—Applications of statistical techniques to specific research topics; limited to advanced students with permission of the instructor. 1 to 3 s.h.

PROFESSOR HART

391. SEMINAR IN SOCIAL STATISTICS.—Special research problems in social statistics, social ethics, the family or related topics. 1 to 3 s.h.

PROFESSOR HART

393. OPERATIONAL SOCIOLOGY.—A seminar for advanced students, presenting an operational philosophy of social science as a basis for research in sociology. Examples of operational procedure will be analyzed. Assigned projects will embody applications of the operational method. Prerequisite: one of the following: Sociology 292 or Economics 237-238, or Education 209, or Mathematics 124, or some other acceptable course in statistics. 3 s.h.

PROFESSOR HART

RELATED COURSES IN OTHER DEPARTMENTS

Economics 215, 216, 217; Philosophy 205; Political Science 223, 224; Psychology 206.

ZOOLOGY

PROFESSOR GRAY, CHAIRMAN—217 BIOLOGY BUILDING; PROFESSOR WILBUR, DIRECTOR OF GRADUATE STUDIES—328 BIOLOGY BUILDING; PROFESSORS SCHMIDT-NIELSEN AND BOOKHOUT; ASSOCIATE PROFESSORS HUNTER AND ROBERTS; ASSISTANT PROFESSORS BAILEY, HORN, NACE, AND ODUM

To undertake study toward an advanced degree in zoology a student should have completed an undergraduate major in zoology or its equivalent. This normally amounts to twenty-four or more hours of course work distributed among various fields of zoology, and must include comparative vertebrate anatomy or vertebrate zoology, embryology, and physiology. At least a year of chemistry is required. Physics is recommended. Candidates for the doctorate will be expected to have had not less than two years of chemistry and a year of botany. For some phases of zoology, organic chemistry is essential.

Required work for the A.M. ordinarily includes 18 semester hours of advanced course work in zoology, six semester hours of course work in a minor department, and an acceptable thesis.

Candidates for the Ph.D. degree are expected to be broadly trained zoologists. The program of each candidate is determined by a committee which reviews previous training and sets specific requirements to be met. Normally the program includes one or more graduate courses in each of several fields of zoology; courses in a minor subject; wide reading in science in general and in biology in particular; research; and a dissertation based on original work. A first draft of the thesis must be submitted to the major professor by March 15 of the year in which the degree is to be conferred.

For 1955-56 the courses planned are 222, 224, 253, 271, 274, 303, 307, 324, 328, 351-352, 353-354, 355-356.

FOR SENIORS AND GRADUATES

204. ADVANCED PARASITOLOGY.—Lectures, conferences, readings, and laboratory work dealing with practical and theoretical problems of classification, morphology, and host relations of animal parasites. Prerequisite: Zoology 161. 4 s.h.

ASSOCIATE PROFESSOR HUNTER

216. **LIMNOLOGY.**—A study of lakes, streams, and ponds including their classifications, photosynthetic productivity, geochemistry, physical patterns, pollution, fisheries, and significance as microcosms. Lectures, field trips, laboratory work. Prerequisites: Chemistry 1 and 2, one year of biology. 4 s.h.

ASSISTANT PROFESSOR ODUM

222. **ENTOMOLOGY.**—Anatomy, physiology, embryology, and classification of insects. Prerequisite: one year of zoology. 4 s.h.

PROFESSOR GRAY

224. **VERTEBRATE ZOOLOGY.**—A study of the life histories, adaptations, ecology, and classification of vertebrate animals. Prerequisite: Zoology 53. 4 s.h.

PROFESSOR GRAY

238. **SYSTEMATIC ZOOLOGY.**—The fundamental theory and practice involved in the collection, identification and classification of animals. Prerequisite: Zoology 1 and 2. 4 s.h.

ASSISTANT PROFESSOR BAILEY

252. **COMPARATIVE PHYSIOLOGY.**—The physiological mechanisms of animals studied on a comparative basis. Prerequisite: Zoology 151 or equivalent. 4 s.h.

PROFESSOR SCHMIDT-NIELSEN

253. **ADVANCED VERTEBRATE MORPHOLOGY.**—Lectures, reports and reading assignments in the comparative morphology of the vertebrates, with particular emphasis on theories concerning the interrelationships of vertebrates, and the origin of certain vertebrate structures. Advanced laboratory study in selected groups of vertebrates. Prerequisites: Zoology 53, 92. 4 s.h.

ASSISTANT PROFESSOR HORN

271. **CELLULAR PHYSIOLOGY.**—The physiological processes of living matter approached through studies of cells. Prerequisites: two years of biology and at least one year of chemistry. 4 s.h.

PROFESSOR WILBUR

274. **INVERTEBRATE ZOOLOGY.**—A study of structure, functions, and habits of invertebrate animals under normal and experimental conditions. Field trips will be made to study, collect, and classify animals in their natural habitats. Prerequisites: Zoology 1 and 2. 4 s.h.

PROFESSOR BOOKHOUT

276. **PROTOZOOLOGY.**—The morphology, physiology, taxonomy, and culture of protozoa. Prerequisites: Zoology 1 and 2. 4 s.h.

PROFESSOR BOOKHOUT

278. **INVERTEBRATE EMBRYOLOGY.**—Lectures, readings and laboratory work dealing with rearing, development and life history of invertebrates. Prerequisite: Zoology 92. 4 s.h.

PROFESSOR BOOKHOUT

FOR GRADUATES

303. **ECOLOGY.**—Relation of animals to environment. Lectures, readings, reports, conferences; laboratory and field work. 4 s.h.

PROFESSOR GRAY

307. **FOUNDATIONS OF ZOOLOGY.**—Lectures, readings, and discussions on the background and training essential for a professional zoologist. 2 s.h.

ALL MEMBERS OF THE GRADUATE STAFF

324. **ADVANCED PHYSIOLOGY.**—Recent advances in physiology. Lectures, conferences and laboratory work. Prerequisite: Zoology 252 or 271. 4 s.h.

PROFESSORS SCHMIDT-NIELSEN AND WILBUR

328. **EXPERIMENTAL EMBRYOLOGY.**—Lectures, readings, reports and laboratory work. Prerequisites: Zoology 53, 92, 156, 271, or equivalent. 4 s.h.

ASSISTANT PROFESSOR NACE

343. **CYTOLOGY.**—The structure of the cell. Lectures, readings, reports and laboratory work. Prerequisites: Zoology 53, 92, 156, or equivalent. 4 s.h.

ASSOCIATE PROFESSOR ROBERTS

351, 352. **ZOOLOGICAL JOURNAL CLUB.**—A weekly meeting of graduate students and faculty to hear reports and to discuss biological facts, theories, and problems. One hour a week throughout the year. 1 s.h.

ALL MEMBERS OF THE GRADUATE STAFF

353, 354. RESEARCH.—Students who have had proper training may carry on research under direction of members of the Staff in the following fields. Hours and credits to be arranged.

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| (a) EMBRYOLOGY. | ASSISTANT PROFESSOR NACE |
| (b) PHYSIOLOGY. | PROFESSORS SCHMIDT-NIELSEN AND WILBUR |
| (c) HISTOLOGY, CYTOLOGY. | ASSOCIATE PROFESSOR ROBERTS |
| (d) INVERTEBRATE ZOOLOGY, INVERTEBRATE HISTOLOGY AND EMBRYOLOGY. | PROFESSOR BOOKHOUT |
| (e) ECOLOGY, ENTOMOLOGY, VERTEBRATE ZOOLOGY. | PROFESSOR GRAY |
| (f) VERTEBRATE MORPHOLOGY AND MORPHOGENESIS. | ASSISTANT PROFESSOR HORN |
| (g) PARASITOLOGY. | ASSOCIATE PROFESSOR HUNTER |
| (h) VERTEBRATE ZOOLOGY. | ASSISTANT PROFESSOR BAILEY |
| (i) LIMNOLOGY. | ASSISTANT PROFESSOR ODUM |

355, 356. SEMINAR.—One or more seminar courses in particular fields are given by various members of the staff. These will be in the fields indicated under courses 353-354 above. 2 s.h.

GRADUATE CREDIT FOR COURSES TAKEN IN THE SCHOOL OF LAW

Upon the recommendation of the Director of Graduate Studies, and upon the approval of the Dean of the Graduate School, students in the Social Sciences may take certain courses in the School of Law for graduate credit. In exceptional instances courses in the School of Law may be considered as fulfilling a student's requirements for a minor.

COURSES IN THE MEDICAL SCHOOL OPEN TO GRADUATE STUDENTS

PROFESSORS BEARD, F. BERNHEIM, CONANT, EADIE, EVERETT, HALL, HANDLER, HETHERINGTON, MARKEE, D. T. SMITH, AND TAYLOR; ASSOCIATE PROFESSORS BECKER, M. L. C. BERNHEIM, DUKE, KORKES, PEELE, PENROD, RUNDLES, AND SCHWERT
AND ASSISTANT PROFESSOR HULL

The facilities of the several Departments of the Medical School listed below are available to qualified graduate students, already admitted to the Graduate School, for independent or supervised research and investigation, whether or not they are working toward advanced degrees.

Graduate students wishing to pursue a major or minor in any of the following departments, or to enroll in any of the courses listed below, should consult or write the appropriate Director of Graduate Studies: Anatomy, Professor J. E. Markee; Microbiology, including Mycology, Parasitology and Hematology, Professor D. T. Smith; Biochemistry and Nutrition, Professor Philip Handler; Physiology and Pharmacology, Professor F. G. Hall.

Because of the special schedules maintained in the Medical School, graduate students should write the Director of Graduate Studies of the department in which they are interested to ascertain the precise dates when courses are offered.

ANATOMY

Completion of training equivalent to that required of an undergraduate majoring in biology or zoology is prerequisite for these courses in human anatomy.

M201. GROSS HUMAN ANATOMY.—A course especially designed for graduate students, comprising a complete dissection of the cadaver. The laboratory work is

supplemented by conferences which place emphasis on the biological aspects of the subject. Oct.-Feb. Hours and credits (maximum 8 s.h.) by arrangement. Prerequisite: adequate training in comparative anatomy and embryology.

PROFESSORS MARKEE AND EVERETT; ASSOCIATE
PROFESSORS BECKER AND DUKE

M202. MICROSCOPIC ANATOMY.—Conferences and laboratory work on the morphological characteristics of the tissues of the animal body. The work is based upon a study of fresh and prepared material and is approached from the physiological viewpoint. Oct.-Feb. Hours and credits (maximum 3 s.h.) by arrangement. Prerequisite: adequate training in histology or cytology.

PROFESSORS MARKEE, HETHERINGTON, AND EVERETT;
ASSOCIATE PROFESSORS BECKER AND DUKE

M203. ANATOMY OF THE NERVOUS SYSTEM.—A study of the gross and microscopic structure of the human central nervous system, special attention being paid to the structural and functional relationships between the various nuclei and fiber tracts. Oct.-Feb. Hours and credits (maximum 4 s.h.) by arrangement. Prerequisite: Anatomy M201.

PROFESSORS MARKEE AND EVERETT; ASSOCIATE
PROFESSORS PEELE, BECKER, AND DUKE

M204. NEUROANATOMICAL BASIS OF BEHAVIOR.—A study of the gross and microscopic anatomy of the nervous system with emphasis on the structural and functional relationships between tracts, nuclei, and cortical areas. Insofar as possible the result of deficit in a system or systems will be demonstrated by motion picture aids, and the mechanisms involved will be reviewed and discussed. Restricted to graduate students with the equivalent of a major in psychology. 3 s.h.

PROFESSOR HETHERINGTON

M312. RESEARCH.—Individual investigations in the various fields of anatomy. Credits to be arranged.

PROFESSORS MARKEE, EVERETT, HETHERINGTON;
ASSOCIATE PROFESSORS PEELE, DUKE, AND BECKER

BIOCHEMISTRY AND NUTRITION

The program of graduate studies in biochemistry is designed primarily for Ph.D. candidates who intend to pursue a research career in this field. Candidates for the A.M. degree only are not encouraged to apply for admission and are accepted only under exceptional conditions. Preference is given to students who have completed one year of graduate work in chemistry, physics, or biology at Duke University or at some other approved institution. As preparation for courses in advanced chemistry, the student must have completed college courses in analytical geometry and elementary calculus. He also must have had adequate preparation for the reading examination in French and German, which is required of candidates for the Ph.D. degree.

M241. GENERAL BIOCHEMISTRY AND NUTRITION.—Three lectures, four laboratory periods of three hours each, one two-hour seminar weekly for eighteen weeks. Prerequisites: general chemistry, organic chemistry, physical and analytical chemistry, and at least one year of college biology. Feb.-June. 8 s.h.; without laboratory work, 3 s.h.

PROFESSORS HANDLER AND TAYLOR; ASSOCIATE PROFESSORS
M. L. C. BERNHEIM, SCHWERT, KORRES, AND DR. KAMIN

M242. BIOCHEMICAL PREPARATIONS.—Laboratory work with conferences when necessary. This course involves detailed study of the chemistry of enzymes, proteins, fats, carbohydrates and derivatives. Prerequisite: Biochemistry M241 or its equivalent. Hours by arrangement. 2, 3, or 4 s.h.

PROFESSOR HANDLER; ASSOCIATE PROFESSORS M. L. C.
BERNHEIM, KORRES, AND SCHWERT

M243-244. GENERAL BIOCHEMISTRY.—An introductory but intensive course in the broader aspects of biochemistry. Topics stressed include the chemistry of naturally occurring materials, nature of enzyme action, intermediary metabolism and chemical aspects of the specialized behavior of mammals, plants and micro-

organisms. Prerequisites: organic chemistry and at least one year of college biology. 6 s.h.

PROFESSOR HANDLER; ASSOCIATE PROFESSORS
KORKES AND SCHWERT

M341. THEORIES AND METHODS OF PHYSICAL BIOCHEMISTRY.—A lecture and seminar course on basic physical concepts and experimental methods in the study of biological compounds and systems. With demonstrations. Given alternately with M343-344. 2 s.h.

ASSOCIATE PROFESSOR SCHWERT

M343-344. BIOCHEMISTRY OF PROTEINS AND ENZYMES.—A lecture and seminar course devoted to the chemical, physical and biological properties of proteins and enzymes. In the first semester, general aspects of protein chemistry will be considered; in the second semester specific proteins and enzyme systems will be reviewed. Given alternately with M341. 4 s.h.

ASSOCIATE PROFESSOR SCHWERT

M345-346. SEMINAR.—Required of all graduate students majoring in biochemistry, one hour per week. 2 s.h.

PROFESSOR HANDLER; ASSOCIATE PROFESSORS
M. L. C. BERNHEIM, SCHWERT, AND KORKES

M347-348. BIOCHEMICAL RESEARCH.—A laboratory course in which the students are introduced to specialized concepts and methods currently employed in biochemical research. This will be accomplished by rotating assignment of the students to the various special laboratories of the department. Prerequisite: Biochemistry M241 or its equivalent. 2, 3, or 4 s.h.

PROFESSOR HANDLER; ASSOCIATE PROFESSORS
M. L. C. BERNHEIM, SCHWERT, AND KORKES

M349-350. INTERMEDIARY METABOLISM.—A seminar course devoted to a study of the detailed mechanisms of carbohydrate, fat and protein metabolism. Given alternately with Biochemistry M351-352. Prerequisite: Biochemistry M241 or its equivalent. 4 s.h.

PROFESSOR HANDLER

M351. NUTRITION.—A seminar course in which the chemical and physiological behavior of essential nutritional factors is considered, as well as the nature of deficiency states. Prerequisite: Biochemistry M241 or its equivalent. Given alternately with Biochemistry M349-350. 2 s.h.

PROFESSOR HANDLER

M354. BIOCHEMISTRY OF DISEASE.—A lecture and seminar course in the biochemical aspects of the pathogenesis, diagnosis, and therapy of diseases of metabolism. 2 s.h.

PROFESSOR HANDLER

MICROBIOLOGY

M221. BACTERIOLOGY AND IMMUNOLOGY.—This course is devoted primarily to the study of the biological and immunological relationships of microorganisms (bacteria, fungi, Rickettsia, and viruses) in disease. It is not a course in bacteriologic technique. An additional course in technical methods is provided for those who require it. Five lectures, two 1-hour conferences and three laboratory periods of 3 hours each weekly, in fall quarter. Prerequisites: courses in general zoology, general botany, histology and comparative anatomy, general and organic chemistry. 6 s.h.

PROFESSOR D. T. SMITH AND ALL
MEMBERS OF THE GRADUATE STAFF

M323. ADVANCED BACTERIOLOGY AND IMMUNOLOGY.—This course is intended primarily for graduate students majoring in bacteriology, but it is also available as a minor to other graduate students in related fields, to whom it is recommended by respective supervising committees and with the approval of the Department of Bacteriology. Prerequisites: Bacteriology and Immunology, M221. 8 s.h.

PROFESSOR D. T. SMITH

M324. RESEARCH SEMINAR ON VIRUSES.—Limited to advanced students. 2 s.h. per semester.

PROFESSOR BEARD

M325. MEDICAL MYCOLOGY.—This course is intended to familiarize the graduate student majoring in mycology with the fungi causing disease in man and animals. The course includes practical laboratory work with materials from patients

in Duke Hospital and those sent to the Duke Fungus Registry from outside sources. Prerequisites: A.M. in botany with major in mycology and M221. Course limited to four students each year. 8 s.h. PROFESSOR CONANT

HEMATOLOGY

M211. Three lectures and three laboratory periods of 3 hours each, weekly, for eleven weeks in the spring quarter. Prerequisites: courses in general zoology, general botany, histology and comparative anatomy. 4 s.h. ASSOCIATE PROFESSOR RUNDLES

MEDICAL PARASITOLOGY

M291. MEDICAL PARASITOLOGY.—One lecture and one three-hour laboratory period per week for eleven weeks during the fall quarter. Prerequisites: courses in Zoology 204, general botany, histology and comparative anatomy. 1 s.h.

PHYSIOLOGY AND PHARMACOLOGY

M261-262. HUMAN PHYSIOLOGY.—Six lectures and twenty laboratory hours per week. Prerequisites: Anatomy M201 and Biochemistry M241 (or equivalents) and at least one year of college physics. Feb.-June. Credits depending on work taken. (Maximum 8 s.h.) PROFESSOR HALL AND ALL MEMBERS OF THE GRADUATE STAFF

M365. RESPIRATION AND AERO-PHYSIOLOGY.—A study of the fundamental respiratory processes in living organisms, and of the special physiological responses and adjustments of the individual during high altitude flight. Lectures, conferences, laboratory. Prerequisites: M261-262 or equivalent. 4 s.h. PROFESSOR HALL

M369. PHARMACOLOGY. MODE OF ACTION OF DRUGS.—Studies and discussions of the pharmacological action of drugs in terms of biochemical and physiological processes. Lectures, conferences, and laboratory. Prerequisites: M261-262 or equivalent. 4 s.h. PROFESSOR F. BERNHEIM

M370. SEMINAR.—A weekly meeting of graduate students and staff in which papers reviewing classical and current physiological literature are reported. Required of all graduate students who are candidates for the A.M. or Ph.D. degree. 2 s.h. PROFESSORS HALL AND BERNHEIM; ASSOCIATE PROFESSOR PENROD; AND ASSISTANT PROFESSOR HULL

M372. RESEARCH.—Individual investigations in the various fields of physiology. Credits to be arranged. PROFESSORS HALL AND BERNHEIM; ASSOCIATE PROFESSOR PENROD; AND ASSISTANT PROFESSOR HULL

THE DIVINITY SCHOOL

Fall Semester begins September 22, 1955

Spring Semester begins February 1, 1956

General Information



HISTORICAL STATEMENT

THE Indenture of Trust signed on December 11, 1924, by Mr. James B. Duke, which established Duke University, mentioned first among its objects the training of ministers of the Gospel. The Divinity School was, accordingly, the first of the graduate professional schools to be organized. Its work began with the year 1926-27, the formal opening exercises being held on November 9, 1926.

THE PURPOSE OF THE DIVINITY SCHOOL

The primary purpose of the Divinity School is to provide training for individuals planning to enter the Christian ministry. This includes not only prospective ministers in local churches, but also those preparing themselves to be missionaries at home and abroad, Directors of Christian Education, teachers of religion, chaplains, and social workers. Vital to all of these forms of service is a full understanding of the beginnings, content, and history of the Christian faith and its special pertinence for the spiritual needs of the modern world. Studies of a broad and thorough character directed toward such an understanding constitute the center of the curriculum of the Divinity School and are regarded as the basic training for all prospective Christian workers. Specific training in the skills required of local ministers and of leaders in the work of Christian Education are also provided. As funds become available for the purpose and as needs appear, additional training in specialized skills and areas of knowledge will be added to the curriculum.

Though bound by ties of history and obligation to the Methodist Church, the Divinity School is ecumenical in its interests and outlook. Its faculty is limited to no one denomination, but draws upon the resources of them all. Students of the several denominations are admitted on the same basis. The Divinity School conceives its task to be one of broad service to the Church in all of its forms.

THE RELATION OF THE DIVINITY SCHOOL TO DUKE UNIVERSITY

The Divinity School is an integral unit of the University and shares fully in its activities, privileges, and responsibilities. The Sunday services in the University Chapel give Divinity School students an opportunity to hear each year a number of leading ministers of the country.

The University Libraries make easily accessible a rich collection of 1,200,000 volumes. Selected courses in the Graduate School of Arts and Sciences and in the professional schools are open to Divinity School students without payment of additional fees. The general cultural and recreational resources of the University are available to them on the same basis as to other students.

LIBRARY RESOURCES

The Divinity School has its own newly remodelled library containing over seventy-three thousand volumes. It is rich in complete files of the more important religious journals and periodicals, in source materials, particularly for the study of medieval and American church history, Judaism, missions and the history of religion, and in facsimiles of the more important manuscripts of the New Testament. Among the most treasured possessions of the Library are twenty-three Greek manuscripts of the eleventh to seventeenth centuries. Fourteen are Greek New Testament, of which one is a magnificent manuscript of the thirteenth or fourteenth century, containing the entire text of the New Testament; four are liturgical manuscripts containing material valuable for studies in the New Testament and church history.

The combined libraries of the University contain over 1,200,000 volumes. The General Library of the University is connected by a corridor with the Divinity School Building. It contains seven hundred and fifty thousand volumes and receives the current issues of several thousand periodicals, more than two hundred of which are in the field of religion. The General Library contains also a catalogue of the library of the University of North Carolina located at Chapel Hill, twelve miles away, and a system of exchange operates between the two libraries, so that books may be secured from that library also within a few hours.

The Henry Harrison Jordan Loan Library was endowed in 1947 by the children of the late Reverend Henry Harrison Jordan, for the purpose of providing ministers in the field with the best of current religious literature. This collection was an outgrowth of the Duke Divinity School Loan Library established in 1944.

COURSES OF STUDY OFFERED BY THE DIVINITY SCHOOL

The Divinity School offers two courses of study. The basic course is that which leads to the degree of Bachelor of Divinity. This is a three-year course and is recommended to all those preparing themselves for the work of the regular pastoral ministry. Students who hold pastoral charges, or other remunerative work requiring any substantial time apart from their studies, may carry only reduced schedules of work, and, in most cases, unless work is taken in the Duke University Summer Session, will spend four years in completion of the requirements for the B.D. degree.

The Divinity School offers also a course of study leading to the degree of Master of Religious Education. This course is designed for individuals who wish to become directors or to take other specialized positions in the work of Christian Education. The course does not provide a general preparation for the work of the regular ministry and cannot serve as a substitute for it. No exchange of credits between the two courses is permitted, nor can departmental courses taken be credited toward more than one degree. Only a limited number of candidates for the Master of Religious Education degree will be accepted annually.

COURSES OF STUDY IN RELIGION OFFERED BY THE GRADUATE SCHOOLS OF ARTS AND SCIENCES

Students who desire to pursue work in religion beyond that for the Bachelor of Divinity degree should register in the Graduate School of Arts and Sciences, through which the degrees of Master of Arts and Doctor of Philosophy in Religion may be obtained. This advanced work is administered through the Department of Religion of the Graduate School and is available to qualified persons of all denominations on an equal basis. Study and research may be pursued in three fields: (1) Biblical Studies; (2) Studies in Church History; and (3) Studies in Christian Thought. A list of courses approved by the Graduate Council for work in these fields, together with general requirements for admission to the Graduate School, may be found in the *Bulletin of the Graduate School*. This Bulletin is available on application to the Dean of the Graduate School of Arts and Sciences, Duke University.

A limited number of University Scholarships and Fellowships, among which are four Gurney Harriss Kearns Fellowships of \$1,200 each, may be obtained by exceptionally qualified students. Applications for these must be submitted to the Dean of the Graduate School on University forms not later than March 1 of each year.

Inquiries concerning specific requirements of the Department of Religion in the Graduate School should be addressed to Professor H. Shelton Smith, Director of Graduate Studies in Religion.

FACILITIES FOR ADVANCED STUDY IN THE AMERICAN SCHOOLS OF ORIENTAL RESEARCH

The Divinity School of Duke University is one of the supporting members of the American Schools of Oriental Research. Accordingly, students in the Divinity School have the privilege of attending the American School in Jerusalem or the one in Bagdad without charge for tuition. They may also compete for the financial aids which are offered annually by the Schools. These consist of four fellowships, the stipends depending upon available funds.

DIVINITY SCHOOL SEMINARS

The Divinity School, under provision of the James A. Gray fund, conducts each year two extension seminars providing two-day study courses for ministers. In 1954-55 seminars were conducted at the First Methodist Church, Hickory, N. C. and the Edenton Street Methodist Church, Raleigh, N. C. Lecturers were Dr. Paul S. Minear, Dr. H. Shelton Smith, and Dr. Waldo Beach.

SCHOOL FOR APPROVED SUPPLY PASTORS

In cooperation with the Department of In-Service Training of the Board of Education and the Southeastern Jurisdictional Conference of the Methodist Church, the Divinity School conducts a School for Approved Supply Pastors of the Methodist Church. The school for 1955 is scheduled for July 19-August 5.

STUDENT GOVERNMENT ASSOCIATION

Each student of the Divinity School upon enrollment becomes a member of the Student Government Association. Four officers are elected by the student body annually in April to serve for the following year. These officers, the President, Vice-President, Secretary, and Treasurer, along with the Dean of the Divinity School, serve as the Executive Committee, and the committee chairmen constitute the Student Council, which meets in monthly session to review and coordinate the programs of the several committees. It is desired that all students contribute to the corporate life of the School through active participation in the work of the committees. The Association operates on the basis of a unified budget, each student contributing to its support dues in the amount of \$5.00 per year, payable at the time of fall registration; \$2.50 at spring registration for students who enter at that time.

Admission and Requirements for Degrees



Requirements for Admission

THE Divinity School is a fully accredited member of the American Association of Theological Schools, and is one of the ten accredited seminaries of the Methodist Church. Candidates for admission must hold the degree of A.B., or its equivalent, based upon four years of work beyond secondary education, in a college which is approved by one of the regional accrediting bodies, and their college records must be such as to indicate their ability to carry on graduate professional studies. They will be admitted without examination on presentation of an official transcript of college and all other academic credits which they may have secured. Women will be admitted on the same basis as men.

Applications may be rejected where transcripts show a considerable number of low grades even though the applicant may have eventually received a degree based upon a bare "C" average, especially where the applicant has required longer than the normal eight semesters of college work. Papers filed with applications are not returned.

The applications of students from foreign countries will be considered, each on its own merits, the general principle being that a training equivalent to that of a baccalaureate degree from an accredited American college must have been secured.

Because of the necessity of limiting admission of full three-year applicants, the Divinity School does not accept transfer students from other theological schools.

In addition to an adequate academic preparation, applicants must satisfy the Faculty as to their Christian character and purpose. A formal application blank may be secured from the office of the Divinity School. This must be filled out and returned by all candidates for admission. Application for admission should be made as soon as possible after the beginning of the applicant's last semester of college work. Applications received after April 1 cannot be assured of admission or financial aid for the ensuing academic year. A minimum of thirty days is required to process any application.

All persons admitted to the Divinity School are required to report to the Student Health Service, Duke Hospital, for physical examina-

tion on days and at hours specified at the time of matriculation. No admission is final until approved by the Student Health Service, which may require submission of a health certificate prior to arrival of prospective students. Applicants are also required to take certain tests administered by the Bureau of Testing and Guidance.

Persons who do not matriculate at the time for which they were originally admitted forfeit admission and must be formally re-admitted. A student who withdraws from the Divinity School and desires to return at a later date must file with the Dean a written request for a leave of absence.

The number of applications for admission to the School is considerably larger than the number of vacancies. In view of this fact, applicants are required on notification of admission to signify their acceptance within two weeks, and to pay an admission fee of \$15.00. (Make check payable to Treasurer of Duke University and send to the Office of the Dean of the Divinity School.) This fee is applied to the regular first-term bill if the student matriculates; if he fails to do so, the fee is forfeited. This does not apply to the Summer Session.

Under the terms of the Selective Service Act, as it now stands, pre-enrollment for later formal admission may be granted to persons who meet the Divinity School standards and requirements for admission. Applications for pre-enrollment may be addressed to the Office of the Dean. Pre-enrolled students must send transcripts of each year's college work by June 15th of each year in which they are pre-enrolled. *Pre-enrollment does not guarantee final admission*, and a person who has been pre-enrolled for any length of time must send a transcript of work by March 1 of the year in which admission is sought for the ensuing academic year. This must be accompanied by a letter from the college dean or other approved reference certifying to continued good character and conduct. The admission fee of \$15.00 is due within two weeks of receipt of notice of final admission.

Not over 30 semester hours of Summer Session work may be credited toward the degree of Bachelor of Divinity.

In view of the fact that enrollment must be limited, persons who have already received the B.D. degree from Duke or elsewhere will not be admitted to the Divinity School except as special students in the Summer Session.

By special permission a student who has begun his work in the Divinity School as a candidate for the B.D. degree may be given credit for not more than 30 semester hours of work taken in another seminary on the approved list of the American Association of Theological Schools. Except in unusual cases, request for such credits must be approved prior to the beginning of work at the other institution. In every such case, however, the final 15 hours of class credit presented for graduation must be done at Duke and must include satisfactory

completion of one of the Senior Seminars. No such student will be relieved of any of the requirements for graduation specified in the catalogue of the Divinity School.

Unless all the work offered for the B.D. degree is completed within a period of nine years from the date of beginning, the student will be required to make formal application for re-admission and re-evaluation of his credits in the light of the then-existing curriculum of the Divinity School. Except in unusual cases, work of a fragmentary character taken over a long period of years, or work taken many years before a student is admitted to the Divinity School, will not be accepted for credit toward the B.D. degree.

ADMISSION ON PROBATION

1. Applicants for admission who are graduates of non-accredited colleges will be considered on their merits, but only a few who give evidence of special promise will be admitted. Specifically, such applicants must show that they have attained a superior average (approximately "B") for a four-year college course.

Admission of such persons will, in every case, be *on probation*.

2. Applicants for admission who are graduates of accredited colleges but whose college transcripts do not fully meet Divinity School standards may also be admitted *on probation* if their recommendations justify consideration.

Probation means:

a. Students who, during the first year of Divinity School work (thirty semester hours), maintain a consistently low average, including one or more failures, will be required to withdraw from the school.

b. Students admitted on probation may carry only limited schedules of work, the amount to be determined by the Dean.

c. In the case of a student admitted on probation, no credit will be granted for any course in which, during the first year's work (thirty semester hours), a grade of less than "C" is recorded, unless the student's entire average in the year during which a "D" grade is received is "C" or better.

d. When the student has been admitted on probation, and is subsequently found to be deficient in the essential requisites of any given area of the "Pre-Seminary Curriculum" (see next section of catalogue), the Divinity School Faculty reserves the right to direct that the student make up such deficiencies by additional courses of study taken in other schools of Duke University in order to qualify for either the B.D. or M.R.E. degree, but without credit for such courses toward those degrees.

Students whose work after admission is not satisfactory may be

placed on probation for one or more semesters and may be denied credit for courses in which "D" grades are recorded.

PRE-SEMINARY CURRICULUM

The Divinity School, in substantial agreement with the standards of the American Association of Theological Schools, recommends that prospective candidates for admission keep in mind the desirability of including the following in their undergraduate curriculum:

It is suggested that a student should acquire a total of 90 semester hours or complete approximately three-fourths of his college work in the areas listed below. No work done towards a first college degree may be used toward a Divinity School degree.

<i>Basal Fields</i>	<i>Semester</i>	<i>Sem. Hours</i>
English	6	12-16
Literature, composition and speech		
Philosophy	3	6-12
At least two of the following:		
Introduction to philosophy, history of philosophy, ethics, logic.		
Bible or Religion	2	4-6
History	3	6-12
Psychology	1	2-3
A foreign language	4	12-16
Greek, Latin, and German are especially recommended.		
Natural sciences	2	4-6
Physical or biological		
Social sciences	2	4-6
At least two of the following:		
Economics, sociology, government or political science, social psychology, education.		

Concentration of work, or "majoring," is a common practice in colleges. For such concentration or major, a constructive sequence based upon any one, two, or three of the above fields of study would lead up naturally to a theological course.

Of the various possible areas of concentration, where areas of concentration are required, a major in English, philosophy, or history is regarded to be the most desirable.

Requirements for the Degree of Bachelor of Divinity

The requirements for graduation stated in this catalogue apply to all students who entered the Divinity School after June 1, 1954. Students who entered prior to that time may graduate under the new plan or under the curriculum which was in force at the time of their original entrance.

The requirements for the degree of Bachelor of Divinity fall into six categories as follows:

- I. Required Courses, to be taken by all candidates for the degree.
 11. Introduction to the Old Testament I 3 s.h.
 12. Introduction to the Old Testament II 3 s.h.
 13. History of the Church through the Protestant Reformation 4 s.h.
 17. Effective Speaking 2 s.h.
 18. Early Christian Life and Literature 3 s.h.
 19. Introduction to New Testament Theology 3 s.h.

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| 20. Introduction to Christian Theology | 4 s.h. |
| 29-30. Sermon Construction—Theory and Practice | 4 s.h. |
- II. Limited-Elective Courses.
- These may be used also as free electives after the limited-elective requirements have been met, and for Vocational Group requirements.
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|---------------------------------------------------------------------------------------------------------------------|--------|
| 1. Two of the following three courses required: | |
| 22. The Philosophy of Christian Education | 3 s.h. |
| 27. Christian Ethics I | 3 s.h. |
| 31. Introduction to Philosophy of Religion (or 121) | 3 s.h. |
| 2. Two of the following three courses required: | |
| 14. History of the Modern Church | 2 s.h. |
| 21. Introduction to the History of Christian Doctrine | 2 s.h. |
| 28. Movements in American Religious Thought | 3 s.h. |
| 3. Three of the following four courses required (Students will note special requirements of each Vocational Group): | |
| 23. Church Administration I | 2 s.h. |
| 24. Philosophy of Christian Missions | 2 s.h. |
| 25. Educational Theory and Practice in the Church | 2 s.h. |
| 26. Introduction to Pastoral Care | 2 s.h. |

III. Vocational Groups.

Each student, not later than the end of the middle year, will choose one of the five Vocational Groups listed on Page 20 and will meet the vocational requirements of the group chosen.

IV. Senior Seminars.

Each student will elect one of the Senior Seminars listed on Page 35.

V. Free Electives.

The student will choose a sufficient number of courses to make up the total of 90 semester hours required for graduation. Language courses count as free electives.

VI. English Bible. Demonstration of a detailed knowledge of the contents of the narrative portions of the English Bible. Examinations for this purpose in Old and New Testament are given each spring. (See Calendar for exact dates.)

Students who show deficiencies in English will be required to take special training in addition to meeting the other requirements for the degree. A degree may be withheld on the grounds of English deficiency only.

ADMINISTERING THE CURRICULUM

For the administration of the curriculum the following regulations have been adopted:

Full-time students must take the required courses as specified for the respective semesters, and are advised to choose the limited-electives as suggested for each semester.

Since the four and one-half day schedule and the free week-ends have been planned with special reference to the needs of students holding pastoral charges, such students are permitted, but not required, to carry the total of the hours of the required work and limited-electives as suggested for each of the first four semesters, but the total hours may not exceed thirteen without special permission of the Dean. The amount of work in the remaining semesters will be governed by the same principle. A student who does not do creditable work will be required to reduce his schedule. The schedules of all students are subject to the approval of the Dean.

The status of "special student" may not be granted simply to permit avoidance of the schedule of required courses. Every request for this classification will be carefully investigated and approval voted in each case by the Curriculum Committee in the cases of students already admitted to the Divinity School, and by the Admissions Committee in the case of applicants for admission as "special students."

A fee of \$10.00 is charged for auditing any course except where a student is already paying regular University fees. Permission to audit requires the approval of the Dean and the instructor concerned.

Students working under or assisted by the Duke Endowment, or by Divinity School funds, are required to take one of the Field Work seminars. This work will be taken in the second semester of the first year.

For a student taking both Greek and Hebrew, the Greek may be continued in the second year by postponing one or both of the required courses in Old and New Testament. In such cases, the Hebrew will be the free elective in that year.

A part-time student who desires to begin the study of Greek in the first year may postpone the required course in Old or New Testament.

Suitable entry will be made on the permanent record of any student who is granted permission to deviate from the requirements in the matter of language.

It is the responsibility of each student to see that he meets all requirements for graduation, and to take his courses in proper sequence. He is also responsible for seeing that any special permission granted him to deviate from the normal program is properly recorded in his personal file. Members of the Faculty have no authority to grant deviations unless these are stated in a letter from the instructor in question to the Dean and approved by him; these to be added to the student's permanent record.

Students who are reported by the treasurer's office as delinquent in their accounts will be debarred from examinations or credit in courses until cleared by the treasurer's office. Transcripts will not be issued for delinquent students.

GRADING SYSTEM

The grading system of the Divinity School employs the letters A, B, C, D, and F, which have been defined as follows: A = Excellent; B = Good; C = Acceptable; D = Poor; F = Failure; WP = Withdrew Passing; WF = Withdrew Failing; and Inc. = Incomplete. (See below.) No percentage equivalents are stated. A student is expected to maintain an average of C.

The Faculty has voted that in the average course of considerable size, especially required and limited-elective courses, the total of A and B grades should normally not run above $33\frac{1}{3}\%$. In all courses where the instructor considers attendance a necessary part of the work of the course, a student may not receive a grade of over C if his absences total 12% of the regular class periods, and if the absences total 24% of the class periods he may not receive credit for the course.

Grades of Incomplete received at the end of the fall semester must be removed by the completion of the work of the course not later than March 15. Grades of Incomplete received at the end of the spring semester must be removed by October 1. If the work of the course is not completed by these dates, the grades shall be recorded as "F."

No student shall be permitted to drop a course after the expiration of one-third of the period of instruction of the course without incurring failure, except for causes adjudged by the Dean to be beyond the student's control.

Requirements for the Degree of Master of Religious Education

The course of study leading to this degree is designed for individuals desiring to engage in various forms of Christian Education.

Candidates for this degree must hold the degree of A.B. (or its equivalent), based upon four years of work beyond secondary education, in a college which is approved by one of the regional accrediting bodies, and with academic and personal records which afford promise of competence in this area of service. The course of study will be especially useful for individuals who have had one or more years of experience in Christian Education and desire further training. Candidates for this degree will be limited in number, and individuals interested are urged to apply for admission well in advance of the opening of the academic year. All work offered for this degree, whether in the regular year or in summer sessions, must be completed within a period of six years from the date of beginning.

PREREQUISITES

Three of the following five prerequisite studies must have been taken by the candidate prior to his admission to the Divinity School or must be secured, without credit toward the M.R.E. degree, after being admitted:

General Psychology	3 s.h.
Sociology	3 s.h.
Education	3 s.h.
Philosophy	3 s.h.
Religion	3 s.h.

GENERAL REQUIREMENTS

Sixty semester hours of graduate-professional work are required for graduation. Not more than twelve semester hours of this work may be taken in approved summer sessions, and not more than eighteen semester hours outside of the Divinity School.

No credits are allowed for undergraduate courses. However, in approving plans of study leading to this degree, consideration will be given to earlier work taken in the fields of Biblical studies and Christian Education provided such courses were taken in the Junior and Senior years in accredited four-year colleges. Also where candidates for the degree have been engaged professionally as Directors of Christian Education for not less than twelve months prior to entering the Divinity School the amount of Field Work may, upon recommendation of the Director of the M.R.E. program and the approval of the Dean, be reduced to not less than six hours of Project or Directed Field Work during the period required for completing requirements for the degree.

A student who secures credit for 15 semester hours each semester will be in line for graduation at the end of two academic years. The amount of work allowed in each semester may not exceed that permitted in the B.D. curriculum.

COURSE REQUIREMENTS

(Not to include any courses numbered above 199, except in Biblical Studies.)

Not less than six semester hours of Divinity School work in Biblical Studies (including both Old and New Testaments) for all M.R.E. candidates, and up to twelve semester hours of such work for candidates adjudged to be insufficiently prepared in Biblical Studies.

Not less than nine nor more than fifteen semester hours in the field of Christian Education, to be distributed as follows: not less than six nor more than twelve semester hours in courses in the practical

aspects of Christian Education, and not less than three in the psychological and philosophical aspects of Christian Education.

Not less than four nor more than seven semester hours, taken in two fields, chosen from the offerings in Christian Theology, Christian Ethics, and American Religious Thought.

Not less than four nor more than seven semester hours, taken in two fields, chosen from the offerings in Church History, Historical Theology, and Philosophy of Religion.

Not less than four nor more than five semester hours, taken in two fields, chosen from the offerings in Missions, Church Administration, and Pastoral Care.

Not less than two nor more than three semester hours, taken in one field, chosen from the offerings in Speech, Public Worship, and Church Music.

Project or Directed Field Work: Not less than six nor more than twelve semester hours.

Free electives in sufficient amount to complete sixty hours for graduation will be taken, if necessary.

Senior Seminars: The Senior Seminars of the B.D. curriculum are open to M.R.E. candidates only in the second year, by special permission of the Dean.

Conduct and Ministerial Acceptability

All students are admitted subject to the rules of the University and of the Divinity School, and continuance in the School is conditioned upon the observance of such rules.

The University expects of its students loyal and hearty cooperation in maintaining high standards of conduct as well as of scholarship. The University, therefore, reserves the right, and matriculation by the student is a concession of this right, to compel the withdrawal of any student whose conduct at any time is not satisfactory to the University, even though no specific charge is made against the student.

Divinity School students whose progress and development show that they are not suited to the work of the ministry will not be permitted to continue in the School.

Courses of Instruction*



REQUIRED courses, Limited-Electives, and Senior Seminars are numbered from 11 to 99. Elective courses carrying credit in the Divinity School only are numbered from 101 to 199. Courses approved for credit in both the Divinity School and the Graduate School of Arts and Sciences are numbered above 200. Lists of courses to be offered in any semester will be available at the time of each registration.

I. Biblical Studies

OLD TESTAMENT

11. INTRODUCTION TO THE OLD TESTAMENT I.—The origin, literary forms, and contents of the books of the Old Testament in their geographical and historical setting to the Exile. 3 s.h. MR. STINESPRING

12. INTRODUCTION TO THE OLD TESTAMENT II.—The Post-Exilic period with special reference to Psalms, wisdom literature, and the problem of theodicy. 3 s.h. MR. BROWNLEE

101. POST-EXILIC PROPHECY.—A study of the Post-Exilic prophets from Ezekiel to Daniel, with special reference to Messianic prophecy. 3 s.h. MR. BROWNLEE

196. THE BIBLE AND RECENT DISCOVERIES.—A survey of the contribution of the cultural setting of the Bible as an aid to its understanding. Illustrated with archaeological slides. 3 s.h. MR. BROWNLEE

197. CULTURAL HISTORY OF PALESTINE.—A study of significant contributions to civilization made in ancient, medieval, and modern Palestine with special reference to the three religions, Judaism, Christianity, and Islam. 3 s.h. MR. STINESPRING

201-202. FIRST HEBREW.—The principles and structure of the Hebrew language with translation of selected Old Testament narratives. 6 s.h. MR. STINESPRING

207-208. SECOND HEBREW.—II Samuel the first semester and the Qumran Isaiah Scroll the second. 6 s.h. MR. BROWNLEE

301. THE RELIGIOUS THOUGHT OF POST-EXILIC JUDAISM.—A study of the development of religious ideas in Post-Exilic Judaism. Prerequisite: O.T. 11. 3 s.h. MR. BROWNLEE

304. ARAMAIC.—A study of the Aramaic portions of the Old Testament, and selected passages from the Targums, Midrashes, and Talmuds. 3 s.h. MR. STINESPRING

305. THIRD HEBREW.—A study of late Hebrew prose, with readings from Chronicles, Ecclesiastes, and the Mishnah. 3 s.h. MR. STINESPRING

* On recommendation of the Dean, courses offered in the Graduate School of Arts and Sciences other than those approved for credit in the Divinity School may be approved for credit in individual cases, provided no equivalent course is offered in the Divinity School; each case to be decided on its merits.

306. ADVANCED HEBREW.—A course on the Dead Sea Scrolls. 3 s.h.

MR. BROWNLEE

307. SYRIAC.—A study of the script and grammar, with readings from the Syriac New Testament and other early Christian documents. Some knowledge of Hebrew and Aramaic prerequisite. 3 s.h.

MR. STINESPRING

309. HISTORY OF THE ANCIENT NEAR EAST.—A specialized study of the civilizations of Egypt, Palestine, Syria, and Mesopotamia in the light of Biblical archaeology. 3 s.h.

MR. STINESPRING

310. OLD TESTAMENT PROPHECY.—The prophetic movement in Israel with special emphasis on the prophets of the eighth century B.C. Prerequisite: O.T. 11 and O. T. 12. 3 s.h.

MR. STINESPRING

SEE ALSO Pr. 183.

*HISTORY OF ART 215. RELIGIOUS ART OF THE ANCIENT NEAR EAST.—The development of art, particularly architecture and sculpture, as the material expression of religious ideas in Egypt, Mesopotamia, and in part Syria and Palestine to the Persian conquest. 3 s.h.

MR. MARKMAN

*HISTORY OF ART 216. RELIGIOUS ART OF THE CLASSICAL WORLD.—The religious art, particularly architecture and sculpture, of Greece and Rome with special emphasis on the monuments in the Near East. 3 s.h.

MR. MARKMAN

NEW TESTAMENT

18. EARLY CHRISTIAN LIFE AND LITERATURE.—A basic study of the civilization in which Christianity began; the origin and development of the Christian Church and its literature through the second century. 3 s.h.

MR. CLARK

19. INTRODUCTION TO NEW TESTAMENT THEOLOGY.—A constructive analysis and exposition of the positive doctrinal content of the New Testament. Prerequisite: N. T. 18. 3 s.h.

MR. PRICE

103-104. HELLENISTIC GREEK.—Designed for beginners to enable them to read the Greek New Testament. 6 s.h.

MR. BROWN

105. LIFE OF PAUL.—A study of Paul's life on the basis of Acts and the letters of Paul, emphasizing the permanent values in Paul's work and his contribution to the world. 3 s.h.

MR. MYERS

109. HISTORY OF THE ENGLISH BIBLE.—A general study of the history of the English version with comparison and evaluation of the numerous contemporary translations. This development will be illustrated from the Divinity School Bible collection, with access to and examination of the original editions. 3 s.h.

MR. CLARK

116. LIVING ISSUES OF NEW TESTAMENT THEOLOGY.—2 s.h.

MR. PRICE

217. THE NEW TESTAMENT IN GREEK.—Extensive reading of the Greek text of the New Testament, with special emphasis upon its interpretation. Prerequisite: six semester hours' study of the Greek language. 3 s.h.

MR. CLARK

218. GALATIANS AND I CORINTHIANS.—A detailed study of two of Paul's major epistles, based on the Greek text. Prerequisite: six semester hours' study of the Greek language. Alternate priority. 3 s.h.

MR. PRICE

220. I PETER AND THE GOSPEL OF JOHN.—A detailed study of two of the non-Pauline writings of the New Testament. The course will be based on the Greek text. Prerequisite: six semester hours' study of the Greek language. Alternate priority. 3 s.h.

MR. PRICE

311. THE LIFE AND TEACHINGS OF JESUS.—A study of the events and sayings of the historical Jesus, in the light of His mission. 3 s.h.

MR. CLARK

* Course offered in the Graduate School of Arts and Sciences which is credited toward the degree of Bachelor of Divinity.

312. **ADVANCED NEW TESTAMENT THEOLOGY.**—An examination of the central aspects of New Testament Theology. Prerequisite: N.T. 19. 3 s.h.

MR. PRICE

313. **APOSTOLIC FATHERS.**—A study of the Christian development from Clement of Rome to Polycarp (90-155 A.D.), with readings in the Greek text. 3 s.h.

MR. CLARK

314. **PATRISTIC THOUGHT.**—A study of the development of early Christian doctrine to the period of Irenaeus. Prerequisite: N.T. 19. 3 s.h.

316. **HELLENISTIC RELIGIONS.**—A study of the Gentile religions in the Roman Empire, at the beginning of the Christian era. Prerequisite: N.T. 18. 3 s.h.

MR. CLARK

317. **THE SYNOPTIC GOSPELS.**—A detailed study of their characteristics and contents, based upon the Greek text, with attention to their respective sources and to the development of synoptic criticism. Prerequisite: N.T. 18. 3 s.h.

MR. CLARK

318. **TEXTUAL CRITICISM OF THE NEW TESTAMENT.**—A study of the scientific recovery of the Greek text on which modern versions are based; manuscript discoveries; principles of textual criticism; practice in collating original manuscripts in the Duke collection. 3 s.h.

MR. CLARK

319. **JUDAISM AND EARLY CHRISTIANITY.**—3 s.h.

SEE ALSO Pr. 184 and 186.

*GREEK 257.—The social and cultural history of the Hellenistic world from Alexander to Augustus. 3 s.h.

MR. ROGERS

*LATIN 258.—The social and cultural history of the Graeco-Roman world. 3 s.h.

MR. ROGERS

II. Historical Studies

HISTORY OF RELIGION AND MISSIONS

24. **PHILOSOPHY OF THE CHRISTIAN WORLD MISSION.**—A study of theological foundations, guiding principles, and contemporary problems of the World Christian Community. 2 s.h.

MR. LACY

108. **COMPARATIVE RELIGION I.** Analysis of the Ultimate Reality, the human situation, and the fulfillment of life as conceived by the great world religions including Christianity. Prerequisite: H.R. 159 or permission of instructor. 3 s.h.

MR. FOSTER

126. **MISSIONARY EDUCATION IN THE CHURCH.**—Practical programs for Church School, audio-visual aids, preaching, stewardship, and special projects. 2 s.h.

MR. LACY

133. **HISTORY OF CHRISTIAN MISSIONS.**—A survey of the spread of Christianity with special emphasis on 19th and 20th century Protestantism. 2 s.h.

MR. LACY

135. **AREA STUDIES OF THE CHRISTIAN CHURCH.**—The cultural setting and current programs and polices of the Church in one of the following areas: a. Latin America, b. India and Pakistan, c. Africa, d. Southeast Asia, e. Japan-Korea-Philippines, f. Moslem Lands, or g. United States Home Missions. (The area of study to be determined by student interest in consultation with the instructor.) 2 s.h.

MR. LACY

* Course offered in the Graduate School of Arts and Sciences which is credited toward the degree of Bachelor of Divinity.

159. LIVING RELIGIONS OF THE NON-CHRISTIAN WORLD. The basic introductory course in History of Religion. Brief consideration of the nature, origin and characteristic phenomena of religion generally, followed by a survey of the major non-Christian religious traditions in their historical development. 3 s.h.

MR. FOSTER

CHURCH HISTORY

13. HISTORY OF THE CHURCH THROUGH THE PROTESTANT REFORMATION.—A survey through the sixteenth century in terms of spiritual genius, organizational development, great literature, and representative movements. 4 s.h.

MR. PETRY

14. HISTORY OF THE MODERN CHURCH.—A survey of the main currents in post-reformation and modern church history. 2 s.h.

MR. SCHAFER

136. PRE-REFORMATION PREACHING.—Sermons, handbooks, and other historical sources studied in relation to Biblical preaching and the liturgical church, the problem of popular ministry and the issues of Christian reform. Prerequisite: C.H. 13. 2 s.h.

MR. PETRY

137. RELIGIOUS LEADERS IN CHRISTIAN HISTORY.—Representative leaders in the early and medieval church studied in relation to contemporary churchmanship. Prerequisite: C.H. 13. 3 s.h.

MR. PETRY

138. GREAT BOOKS IN CHRISTIAN HISTORY.—An intensive study of Augustine's *Confessions*, Thomas à Kempis' *Imitation of Christ*, Erasmus's *Complaint of Peace*, Luther's *Christian Liberty*, Calvin's *Instruction in Faith*, and Andrewes' *Private Devotions*. 3 s.h.

MR. PETRY

139. METHODISM.—A study of Methodist societies in England and the developing church in America as they gave rise to such historic issues as polity, education division, and reunion. Prerequisite: C.H. 13. 2 s.h.

MR. PETRY

330. THE CHURCH IN EUROPE SINCE 1800.—Emphasis is placed on the relation of the church to the social, economic, and political life of Modern Europe. Particular attention is given to Papal pronouncements on social issues, the relationship of Eastern to Western institutions, and ecclesiastical historiography as it involves source editions, periodicals, and ecumenical literature. 3 s.h.

MR. PETRY

331. THE SOCIAL MESSAGE OF THE EARLY AND MEDIEVAL CHURCH.—A study of the social teachings and contributions of the Christian church prior to the Protestant Reformation. Prerequisite: C.H. 13. 3 s.h.

MR. PETRY

332. THE MEDIEVAL CHURCH.—Outstanding characteristics of the medieval church, emphasizing theory, polity, institutions, sacraments, and worship. Prerequisite: C.H. 13. 3 s.h.

MR. PETRY

334. CHURCH REFORMERS AND CHRISTIAN UNITY.—The work of such reformers as Marsilius of Padua, William of Ockham, Jean Gerson, Pierre d'Ailly and Nicholas of Cusa in relation to ecclesiastical schism and the search for Christian unity through representative councils. Prerequisite: C.H. 13. 3 s.h.

MR. PETRY

336. CHRISTIAN MYSTICISM IN THE MIDDLE AGES.—Source studies, in historical perspective, of such late medieval mystics as Bernard of Clairvaux, the Victorines, Ramon Lull, Meister Eckhart, Richard Rolle, Catherine of Siena, and Nicholas of Cusa. Prerequisite: C.H. 13. 3 s.h.

MR. PETRY

HISTORICAL THEOLOGY

21. INTRODUCTION TO THE HISTORY OF CHRISTIAN DOCTRINE.—Formative periods of doctrine and controversy illustrating the nature and content of historical theology. 2 s.h.

MR. SCHAFER

120. THE CREEDS OF CHRISTENDOM.—A historical and interpretative study of great Christian creeds and confessions. Prerequisite: C.T. 20. 3 s.h.

MR. SCHAFER

129. SEMINAR IN HISTORICAL THEOLOGY.—Selected problems in the history of Christian theology. Prerequisite: H.T. 21. 3 s.h. MR. SCHAFER

198. THE HERITAGE OF THE REFORMATION.—The doctrine and practice of the Reformers studied for their contribution to the life and thought of the modern church. 3 s.h. MR. SCHAFER

323. HISTORY OF CHRISTIAN THOUGHT I.—A historical study of theology in the ancient and medieval church. Prerequisite: permission of instructor. 3 s.h. MR. SCHAFER

324. HISTORY OF CHRISTIAN THOUGHT II.—A historical study of theology from the Reformation. Prerequisite: permission of instructor. 3 s.h. MR. SCHAFER

AMERICAN RELIGIOUS THOUGHT

28. MOVEMENTS IN AMERICAN RELIGIOUS THOUGHT.—Beginning with the English Reformation, this course introduces the leading types of Protestantism transplanted to or developed within colonial America, primary emphasis being placed upon the dominant modes of Christian thought. 3 s.h. MR. SMITH

199. THE AMERICAN SOCIAL GOSPEL.—A study of Protestant social thought and action in America since 1865. 3 s.h. MR. SMITH

395. RELIGIOUS THOUGHT IN COLONIAL AMERICA.—Consideration of the principal types of Protestant thought in colonial culture. 3 s.h. MR. SMITH

396. AMERICAN RELIGIOUS THOUGHT IN THE NINETEENTH CENTURY.—Comparative exposition of Orthodoxy and Liberalism. 3 s.h. MR. SMITH

397. CURRENT AMERICAN THEOLOGY.—Critical appraisal of conflicting tendencies in American theological thought. 3 s.h. MR. SMITH

398. MODERN AMERICAN CHRISTOLOGY.—An analysis of the historical development of modern American conceptions of the person and work of Christ. 3 s.h. MR. SMITH

495. SEMINAR: JONATHAN EDWARDS AND JOHN WESLEY.—A comparative study of the major theological works of Edwards and Wesley. 2 s.h. MR. SMITH

498. SEMINAR: THEOLOGY OF PAUL TILLICH.—An examination of Tillich's philosophical theology. MR. SMITH

III. Theological Studies

PHILOSOPHY OF RELIGION

31. INTRODUCTION TO PHILOSOPHY OF RELIGION. Historical orientation to the problems and types of religious philosophy in Western Culture. 3 s.h. MR. FOSTER

110. CHRISTIAN FAITH AND MODERN SCIENCE. Relations, tensions, and possible harmonizations of scientific methodology and modern scientific knowledge with the Christian Faith. 2 s.h. MR. FOSTER

121. CONCEPTS OF DEITY. Analysis of the outstanding ideas of God in the history of human thought, including the contemporary scene. 3 s.h. Consent of instructor. MR. FOSTER

CHRISTIAN THEOLOGY

20. INTRODUCTION TO CHRISTIAN THEOLOGY.—Contemporary theological tendencies, method and theory of knowledge, and introductory interpretation of the principal tenets of the Christian faith. 4 s.h. MR. CUSHMAN

107. THE PERSON AND WORK OF CHRIST.—An intensive examination of classical types of Christological and soteriological formulation in the history of Christian reflection, assessment and constructive position. Prerequisite: C.T. 20. 2 s.h. Mr. CUSHMAN

224. CONCEPTIONS OF MAN IN WESTERN THOUGHT.—An analysis and interpretation of important types of philosophical and theological theory. 3 s.h. Mr. CUSHMAN

321. PLATONISM AND CHRISTIANITY.—An analysis of Plato's religious philosophy and a survey of its continuing influence in Hellenistic and Christian thought. Prerequisite: permission of instructor. 3 s.h. Mr. CUSHMAN

322. THEOLOGY AND PHILOSOPHY IN THE NINETEENTH CENTURY.—Protestant thought from Schleiermacher to Troeltsch together with representative theologians of Britain. 3 s.h. Mr. CUSHMAN

325. PHILOSOPHICAL THEOLOGY I.—Constructive approach to the problem of faith and reason. Prerequisite: Permission of instructor. 3 s.h. Mr. CUSHMAN

326. PHILOSOPHICAL THEOLOGY II.—Main problems in the history of philosophical theology. Prerequisite: C.T. 325. 3 s.h. Mr. CUSHMAN

328. SEMINAR IN TWENTIETH-CENTURY CONTINENTAL AND BRITISH THEOLOGY.—Critical examination of the thought of Barth, Brunner, Berdyaev, Maritain, F. R. Tennant, and William Temple. 3 s.h. Mr. CUSHMAN

SEE ALSO NEW TESTAMENT 312.—ADVANCED NEW TESTAMENT THEOLOGY.

CHRISTIAN ETHICS

27. CHRISTIAN ETHICS I.—The central assumptions and principles of the Christian conception of the good life. 3 s.h. Mr. BEACH

114 CHRISTIAN ETHICS II.—A consideration of special problems involved in the application of Christian ethics in modern society. Prerequisite: C.E. 27. 2 s.h. Mr. BEACH

190. THE CHRISTIAN CRITIQUE OF COMMUNISM.—Analysis of and alternatives to the dynamic secular ideology from a religious standpoint. 3 s.h. Mr. LACY

192. CHRISTIANITY AND INTERNATIONAL RELATIONS.—An application of Christian Ethics to world problems. 3 s.h. Mr. LACY

194. INTRODUCTION TO CHRISTIAN SOCIAL ETHICS.—Christian norms for social policy and their application to the domestic, economic, political, and racial patterns of modern culture. 3 s.h. Mr. LACY

391. HISTORICAL TYPES OF CHRISTIAN ETHICS I.—A critical study of representative statements of Christian ethical theory, through the early Reformation. Prerequisite: C.E. 27 or its equivalent. 3 s.h. Mr. BEACH

392. HISTORICAL TYPES OF CHRISTIAN ETHICS II.—A continuation of C.E. 391, from the Reformation through current Christian ethical theory. Prerequisite: C.E. 391. 3 s.h. Mr. BEACH

393. THE CHRISTIAN INTERPRETATION OF HISTORY.—A comparative examination of the chief secular and Christian theories of history current in Western thought. For advanced students. Prerequisite: C.E. 27. 3 s.h. Mr. BEACH

394. CHRISTIANITY AND THE STATE.—The relation of the Christian theory of the State to political problems with special consideration of the religious assumptions underlying democratic theory and practice, and of the relationship of church to state. Prerequisite: C.E. 27. 3 s.h. Mr. BEACH

IV. Practical Studies

CHURCH ADMINISTRATION

23. CHURCH ADMINISTRATION I.—An introduction to the administrative and supervisory procedure essential in the total work of the church. 2 s.h.

MR. WALTON

142. FIELD WORK I—GENERAL.—A course designed to help with personal and parish problems, and the techniques of successful service. 1 s.h. (Note: All students working under or assisted by the Duke Endowment or by Divinity School funds are required to take this course, or 144, Field Work II, or 145, Field Work III.)

MR. WALTON

144. FIELD WORK II—RURAL.—This course is designed to prepare students for work in rural churches. It emphasizes the training values in field work. 1 s.h.

MR. WALTON

145. FIELD WORK III—URBAN.—This course is designed to prepare students for work in urban churches. It is planned to help the student fit into the urban situation and to gain the most from his field work. 1 s.h.

MR. FISHER

146. CHURCH ADMINISTRATION II.—This course considers the principles of program planning, policy development, and leadership enlistment and training in the church. 3 s.h.

MR. WALTON

147. THE URBAN COMMUNITY.—The urban environment viewed in relation to the people, institutions, organizational structure and constitutive forces giving rise to urbanism as a way of life. 2 s.h.

MR. REGEN

148. CHURCH FINANCE.—A seminar to consider the principles of budget making, stewardship instruction, and every member enlistment in church support. 2 s.h.

MR. WALTON

149. PARISH AND COMMUNITY RESEARCH AND ANALYSIS.—A seminar to consider the techniques of community surveys, research, and analysis. Attention is given to the use of research data in program planning and in checking on the effectiveness of church work. 2 s.h.

MR. WALTON

150. THE RURAL PASTOR AND HIS WORK.—A study of the qualifications of the rural pastor and his task. Attention is given to the supervisory methods and material available for the pastor's use and to the current trends in rural life and their influence upon church work. 3 s.h.

MR. WALTON

151. THE RURAL CHURCH.—A study of rural conditions and the place of the church as a community institution and the problems and situations met in local church management and supervision. 3 s.h.

MR. WALTON

152. PARISH EVANGELISM.—A study seeking to prepare the student to plan a comprehensive and continuous program of evangelism for the local church. 2 s.h.

MR. FISHER

153. AUDIO-VISUAL AIDS.—The principles and methods of audio-visual aids in the program of the church. 2 s.h.

MR. WALTON AND OTHERS

154. THE URBAN CHURCH.—A consideration of the function, nature, program, and administration of the effective city church and of the urban minister's distinctive task. 2 s.h.

MR. REGEN

155. CHURCH POLITY: COMPARATIVE AND DENOMINATIONAL.—This is a study of the polity of the different denominations in which the students may serve, based upon the disciplines and practices of the respective denominations. 2 s.h.

MR. FISHER, MR. REGEN AND OTHERS

(The plan of this course is for the class to meet as a unit one hour a week for the study of the common interests of the denominations; for the other hour the class is divided into groups on the following plan:

- a. THE POLITY OF THE METHODIST CHURCH.—The study will be based upon the Methodist Discipline. MR. FISHER
- b. THE POLITY OF THE BAPTIST CHURCHES.
- c. THE POLITY OF THE CONGREGATIONAL-CHRISTIAN CHURCHES.
- d. THE POLITY OF THE PRESBYTERIAN CHURCHES. MR. REGEN

(Courses in the polity of other churches will be arranged as needed.)

157. GROUP WORK.—The principles and skills required in group work as they apply to discussion groups, forums, panels, guided neighborhood conversation groups, social work, community organization and action. 2 s.h. MR. WALTON AND OTHERS

FIELD WORK CREDIT.—Granted on written recommendation of the Director of Field Work upon the completion of satisfactory work in C.A. 23, the completion of Field Work Seminar, 142, 144, or 145, and the performance of successful field work. 1 s.h. (Available only in the senior year.)

CHRISTIAN EDUCATION

22. PHILOSOPHY OF CHRISTIAN EDUCATION.—A basic study of the implications of theology and of educational theory for a philosophy of Christian education. 3 s.h. MR. RICHEY

25. EDUCATIONAL THEORY AND PRACTICE IN THE CHURCH.—An overall and introductory view of the educational functions of the church. Consideration is given to the work of organization, administration and supervision of the church school. 2 s.h. MR. KALE

125. PSYCHOLOGY AND THEOLOGY.—An inquiry into the relations of psychological and theological interpretations of man. 3 s.h. MR. RICHEY

129. PSYCHOLOGY OF RELIGIOUS DEVELOPMENT.—Psychological foundations of religious nurture of children and youth. 2 s.h. MR. RICHEY

131. (Formerly 22.) PSYCHOLOGY OF RELIGION.—A study of psychological aspects of the religious life. 2 s.h. MR. RICHEY

158. CHRISTIAN EDUCATION AND THE COMMUNITY.—A study of the principles, practices, methods and materials of Christian Education as related to the total community life. 3 s.h. MR. KALE

159. CHRISTIAN FAITH AND HIGHER EDUCATION.—An examination of current philosophies of religion in higher education, with reference to student religious work and college teaching of religion. 2 s.h. MR. RICHEY

160. EVANGELISM IN THE CHURCH SCHOOL.—A study of the place of evangelism in the work of the church school. 2 s.h. MR. KALE

161. THEORIES, TYPES AND TECHNIQUES OF TEACHING.—A study of the main principles underlying religious teaching with an examination of the different methods of teaching. 3 s.h. MR. KALE

162. METHODS AND MATERIALS OF CHRISTIAN EDUCATION.—A consideration of the principal administrative problems of the church school, of the various concepts of the curriculum, and an examination of existing curricula, their nature, use and value. 3 s.h. MR. KALE

163. WORSHIP AND DRAMA.—Worship in its bearings upon the educational functions of the Christian religion. The use of drama in Christian Education with the creation of dramatic programs of worship and drama writing and production. 3 s.h. MR. KALE

164. CHRISTIAN EDUCATION OF CHILDREN.—The organization and administration of the work of the church with children of the nursery, kindergarten, primary and junior age groups. 2 s.h. MR. KALE

165. CHRISTIAN EDUCATION OF YOUTH.—The organization and administration of the youth program in the local church. 2 s.h. Mr. KALE

166. CHRISTIAN EDUCATION OF ADULTS.—A study of the needs of adults; the materials, methods, and principles of organization for the Christian Education of adults. 2 s.h. Mr. KALE

167. THEOLOGY AND THE LAY MIND.—Formulation and communication of the Christian faith, for the mind of today. (For Middlers and Seniors.) 3 s.h. Mr. RICHEY

169. THEORIES OF CHRISTIAN EDUCATION.—A critical investigation of current theories of Christian Education. 3 s.h. Mr. RICHEY

SEE ALSO HISTORY OF RELIGION 126. MISSIONARY EDUCATION.

PASTORAL CARE

26. INTRODUCTION TO PASTORAL CARE.—A study of the background, needs and methods of pastoral work and personal counseling. 2 s.h. Mr. DICKS

170. SEMINAR IN PASTORAL CARE.—For students preparing for full-time pastoral ministry, hospital chaplaincy, industrial chaplaincy, ministry to older people, or work with young people. Practicum. Prerequisite: P.C. 26 or consent of instructor. 2 s.h. class and 1 s.h. clinic. Mr. DICKS

171. PASTORAL CARE PRACTICUM I.—A study of pastoral calls and interviews. Particularly for students serving churches or working in clinical situations. Prerequisite: P.C. 26 or consent of instructor. 2 s.h. class and 1 s.h. clinic. Mr. DICKS

172. PASTORAL CARE PRACTICUM II.—Advanced pastoral care for students serving churches or working in clinical situations. Prerequisite: P.C. 26 or P.C. 171. 3 s.h. Mr. DICKS

173. RELIGION AND HEALTH.—The study of the relation of body and mind and of the religious resources for health through counseling and worship. Prerequisite: P.C. 26 or consent of instructor. 2 s.h. Mr. DICKS

174. PERSONAL COUNSELING.—A study of formal personal counseling for those going into the ministry, religious education, and work with college students. 2 s.h. [Open to a limited number of first-year students.] Mr. DICKS

175. THE LITERATURE OF PASTORAL CARE.—Directed reading and seminar discussion of writings in the field of psychiatry, psychology, sociology, social work, and ministry, and other fields as they relate to pastoral care. Prerequisite: consent of instructor. 2 s.h. Mr. DICKS

176. PASTORAL CARE AND SOCIAL WORK.—Lectures by various specialists and visits to social agencies to orient the minister in relation to other specialists working with individuals and to familiarize him with social service resources. 2 s.h. [Open to a limited number of first-year students.] Mr. DICKS

177. ADVANCED SEMINAR IN PASTORAL CARE.—Continuation of 170, which, however, is not a prerequisite. Emphasis upon hospital ministry. Practicum. Prerequisite: P.C. 26 or consent of instructor. 2 s.h. class and 1 s.h. clinic. Mr. DICKS AND OTHERS

PREACHING

29-30. SERMON CONSTRUCTION—THEORY AND PRACTICE.—An investigation of the theory of preaching (first semester). Detailed work in practice preaching and a clinical session each week on the application of theory (second semester). 4 s.h. Mr. CLELAND, MR. CARLTON AND MR. GARDNER

181. PRACTICAL PROBLEMS IN PREACHING.—Analysis of selected sermons and discussion of problems facing the preacher in the pulpit. Prerequisite: Pr. 29 and 30. 2 s.h. Mr. CLELAND AND MR. CARLTON

183. EXPOSITORY PREACHING—OLD TESTAMENT.—The exegesis and exposition of selected Old Testament passages for homiletical purposes. 2 s.h.

MR. CLELAND

184. EXPOSITORY PREACHING—THE PAULINE EPISTLES.—A study for homiletical purposes of the religious experience and theology of Saint Paul and its influence on ethical theory and practice. 3 s.h.

MR. CLELAND

185. EXPOSITORY PREACHING—NON-BIBLICAL.—An evaluation of drama, poetry and fiction for homiletical purposes. 3 s.h.

MR. CLELAND

186. EXPOSITORY PREACHING—THE JOHANNINE WRITINGS.—The exegesis and exposition of the Gospel and the Epistle of John for homiletical purposes. 2 s.h.

MR. CARLTON

SEE ALSO: CHURCH HISTORY 136. PRE-REFORMATION PREACHING.

PUBLIC WORSHIP

178. PUBLIC WORSHIP.—The theory and practice of the worship of the Church: an analysis of the rites and ceremonies in "The Book of Worship." 3 s.h.

MR. RUDIN

180. CHURCH MUSIC.—A study of hymnology, song leading, and problems of the modern church choir. (Offered in both semesters.) 3 s.h.

MR. BARNES

SPEECH

17. EFFECTIVE SPEAKING.—Fundamentals of preparation and delivery to develop effectiveness in private and public speech. Individual conferences. Offered in four sections. (Students found deficient in Speech and Preaching will, upon recommendation of the instructors concerned, take Speech 132 also.) 2 s.h.

MR. RUDIN

132. PUBLIC SPEAKING.—Composition and delivery, based upon individual needs. Selection and arrangement of materials, principles of persuasion, intensive practice in delivery. Individual conferences. 2 s.h.

MR. RUDIN

134. ORAL INTERPRETATION OF LITERATURE.—A course for advanced students designed to develop effectiveness in interpreting the Bible and other commonly used materials of public worship. Individual conferences and drill sections to be arranged. Prerequisite: Speech 17. 2 s.h.

MR. RUDIN

V. Senior Seminars

In the third year each B.D. candidate will take one Senior Seminar, yielding 2 s.h. credit. No student may enroll in more than one Senior Seminar without special permission of the Dean. Senior Seminars will not yield Graduate School credit, nor be open to special students.

Enrollment in each Senior Seminar shall be normally not more than twelve. No Senior Seminar need be conducted for an enrollment of less than 5 students. Each Senior Seminar will be in charge of a Chairman. Not less than two instructors will participate in each Seminar. General supervision of all Senior Seminars will be exercised by a standing committee of the Faculty.

The work done in each Senior Seminar should be equivalent to that done in a normal 2 s.h. course, with reading based upon a prepared reading list and a substantial paper or written project report.

FIRST SEMESTER

61. THE CHRISTIAN FAITH AND ITS PROCLAMATION.—2 s.h.
MR. RUDIN, MR. CUSHMAN, MR. CARLTON
63. THE ECUMENICAL MOVEMENT IN THE MODERN CHURCH.—2 s.h.
MR. SMITH, MR. LACY, MR. SCHAFER
65. PRACTICAL VALUES OF BIBLICAL RESEARCH.—2 s.h.
MR. CLARK, MR. STINESPRING
67. THE NEW TESTAMENT AS MATERIALS FOR TEACHING.—2 s.h.
MR. RICHEY, MR. PRICE

SECOND SEMESTER

62. WESTERN CHRISTIANITY AND NON-CHRISTIAN FAITHS.—2 s.h.
MR. PETRY, MR. FOSTER
64. THE OLD TESTAMENT AS MATERIALS FOR TEACHING.—2 s.h.
MR. KALE, MR. BROWNLEE, MR. PRICE
66. THE CHRISTIAN CHURCH AND SOCIAL CHANGE.—2 s.h.
MR. BEACH, MR. LACY
68. CHRISTIAN EXPERIENCE AND CONTEMPORARY LIFE.—2 s.h.
MR. WALTON, MR. MYERS, MR. FOSTER
70. PASTORAL CARE AND PREACHING.—2 s.h.
MR. DICKS, MR. RICHEY, MR. CARLTON

Cost, Residential Arrangement, and Student Aid



Fees and Cost

THE University tuition charge is \$225 per semester. Scholarships covering this amount are granted to all Divinity School students. Other charges are as follows:

Fees per semester:

General Fee	\$ 50.00
Approximate cost of meals per semester (estimated).....	200.00
Room per semester (double room).....	87.50
Total per semester.....	<u>\$337.50</u>

The "General Fee" is in lieu of all special charges, and includes the following fees: Matriculation, Medical, Library, Damage, Commencement, and Diploma. Divinity School students may secure admission to all regularly scheduled University athletic contests held on the University grounds during the entire academic year by payment of the athletic fee of \$10.00 per year plus any Federal taxes that may be imposed. This fee is payable in the fall semester.

LATE REGISTRATION

Students matriculating in either semester at a date later than that prescribed in the catalogue shall pay to the Treasurer of the University a penalty of \$5.00.

Living Accommodations

A description of dining facilities and living quarters is given in the *Bulletin of the Divinity School*.

Student Aid

Duke University remits its regular tuition charges to all students enrolled in the Divinity School. In recognition of this, students are expected to render occasional services such as the teaching of Church School classes and responding to calls for particular services. Financial

aid, over and above this, is available only in the form of grants-in-aid and work scholarships. These funds come from sources described on pages 39 through 42 of this catalogue. Those appointed to such work agree to give ten weeks' service during the summer months to a church to which they are assigned. In return they receive their board and room for the period of their summer service and amounts varying up to \$600. By special arrangement a student may be assigned to a church for five weeks' work with one-half the stated remuneration. This plan provides an opportunity for earning a large part of the year's expenses, while at the same time assuring the student valuable experience in religious leadership.

In most cases students will be expected to be able to finance themselves for the first semester of work in the Divinity School; those who show that they can carry their school work satisfactorily are then eligible for various forms of financial assistance.

Students who must have additional income over and above their summer's earnings may secure part-time employment during the academic year. They are strongly urged, however, to make their arrangements so that they will not have duties which will prevent their taking the fullest advantage of the educational and cultural opportunities of the Divinity School.

FIELD WORK SUPERVISION

The Department of Field Work is maintained to help students receiving financial aid to secure work opportunities where they may render service for such aid. Their work will be supervised so that their experiences may be part of their ministerial training. Students are also helped to secure work opportunities for the experience to be gained. All students working under the department have their board, room, laundry, and travel expenses provided by the charge served. Certain courses are required of all students engaged in field work and are designed to prepare them for the work in which they engage. All students assigned to field work must maintain satisfactory grades and attitudes.

All students working under the Duke Endowment or similar aid are required to attend the Christian Convocation unless excused in writing by the Dean on recommendation of the Director of Field Work.

LOAN FUNDS

Divinity School students who have satisfactorily completed one semester's work are eligible to apply for loans from the University Loan Funds. Such applications should be filed on the approved forms in the Office of the Secretary of Duke University within the first week of each semester.

ENDOWED SCHOLARSHIP FUNDS

Certain special scholarship funds have been established, the income of which is available for students wishing to secure training in preparation for the Christian ministry.

These scholarships are all awarded on the basis of service performed in a local church, thus providing experience as well as financial aid for the student.

THE SCHOOL OF LAW

Fall Semester begins September 21, 1955

Spring Semester begins January 30, 1956

The School: Its Purposes and Methods



BUILT on the foundation of the School of Law of Trinity College, with its history of legal instruction running back to the middle of the past century, the Duke University School of Law was established in 1924. In 1930 the School was moved into its present building, the Faculty and library were greatly increased, and the activities of the School broadened. The School of Law is a member of the Association of American Law Schools and is on the "Approved List" of the American Bar Association. More than twenty-four states and fifty-one institutions of higher learning are represented in its student body.

The curriculum of the School of Law provides thorough preparation for the practice of law in any state; its graduates have been admitted to the bar in over forty states and the Territory of Hawaii. Opportunities for specialization in particular branches of the law are afforded.

In carrying out the trust imposed by the indenture establishing the Duke Endowment, the School of Law seeks to have the student acquire knowledge and comprehension not only of legal doctrine, but also of the judicial process and of the social, economic, and political problems with which law and lawyers must deal. The method of instruction employed compels analysis of judicial opinions and inquiry into the non-legal as well as the legal considerations which underlie them. In appropriate courses, special consideration is given to the work of the legislative and administrative agencies of government. In recognition of the increasing importance of the role of the lawyer in representing private interests before government agencies and in government service, an unusually broad program is offered in the public law field. Scope for creative student work is provided by seminar courses and supervised individual study and research.

Practical training is not left for the first years of practice. A carefully integrated series of courses is designed to give students actual experience in the work of lawyers. Legal research and writing courses and moot court work in the first and second years are followed in the third by seminar courses emphasizing legal planning and drafting and by practice courses and work in the Legal Air Clinic. A student bar association affords a means whereby the student may gain acquaintance with the professional organizations through which a lawyer may and should contribute to the well-being of his profession and of society.

For a description of the facilities and activities of the School see the *Bulletin of the School of Law*.

Admission, Registration, and Fees



Admission

DIRECTIONS TO APPLICANTS FOR ADMISSION

APPPLICATION must be made on the prescribed Law School application blank which will be sent upon request. No application can be finally passed upon until all required documents are on file. These documents are: (1) the application itself, to which a recently made personal photograph should be attached; (2) a complete transcript of record and evidence of graduation or right to honorable withdrawal from the institution from which credit is offered; (3) letters from (a) a responsible official of the college attended, and (b) a responsible person in the applicant's home community; (4) a report of the applicant's score on the Law School Admission Test described below; (5) a medical certificate on a form supplied by the Law School.

The Law School seeks to select students who give promise of leadership in some of the various phases of professional activity. Applicants for admission and their sponsors are requested to keep this fact in mind.

The Law School Admission Test, referred to above, is administered by the Educational Testing Service and is participated in by a number of the leading law schools of the country. It is given four times a year at examination centers conveniently located throughout the United States. No special preparation for the test is necessary, since it is designed to measure aptitudes rather than knowledge of subject matter. The applicant's score on the test will be considered along with other data in passing upon his admission to the Law School. Application forms and information concerning the test should be procured by writing directly to the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey.

TIMES OF ADMISSION

Beginning students may enter only at the opening of the Fall semester in any year. Students who have completed the first year of law study at this or any other law school approved by the Association of American Law Schools may enter at the beginning of any semester.

REQUIREMENTS FOR ADMISSION

An application for admission as a candidate for the degree of Bachelor of Laws may be submitted by any person (1) who is a graduate of a college of approved standing, or (2) who has completed in a college of approved standing work equivalent in number of units to three-fourths of that required for graduation and whose college work in its entirety shows an average grade equal to that required for graduation, the requirement in each case being determined by the regulations of the college where the work was taken.

COMBINED COURSE

A number of colleges, upon application by their students, have permitted those who have completed three years of undergraduate work to enter the Law School of Duke University and upon the satisfactory completion of the first year of law school work to receive their Bachelor of Arts degree from such colleges. It is suggested that students desiring to enter Duke University School of Law make inquiry of their proper college authorities regarding this point.

A student from an undergraduate college of Duke University who has completed therein three years of study may apply to that college to enroll in a combined course wherein his first year of law study may be accepted toward the Bachelor of Arts degree, and, upon the completion of four additional semesters of law study, he will receive the Bachelor of Laws degree.

ADMISSION TO ADVANCED STANDING

Any person who has complied with the requirements for admission set forth in this announcement prior to the commencement of his law study, who presents evidence of the satisfactory completion of at least one year of study at any law school which is a member of the Association of American Law Schools, and who is eligible for readmission to the law school from which he proposes to transfer, may be admitted to advanced standing, subject to such rules as would be applicable to students in this School having a comparable scholastic record. Provisional credit for courses so completed will be given, final credit being conditioned on the completion of at least one full year of law study in this School with an average at least five points above the passing grade. Adjustment of credit for work done in such other law schools may be made by the Dean or by vote of the Faculty.

CANDIDATES FOR GRADUATE DEGREES

Applications for admission to graduate study should be addressed to the Dean of the Law School and should include transcripts of records of legal and pre-legal work. For the requirements for the graduate degrees, see pages 293 and 294.

Registration

Registration must be completed on the first day of each semester. Instruction will begin in all classes on the following day. Registration is conducted in the Law Building. All students, both old and new, are required to register at the beginning of each semester, at which time class schedules and course cards must be filled out and approved. Students who register in any semester at a date later than that prescribed are required to pay to the Treasurer of the University a penalty of \$5.00 for late registration unless excused therefrom. A student's registration for any semester is not complete until he has paid the tuition and fees for that semester. The \$5.00 penalty for late registration will be imposed, therefore, unless the student has paid his tuition and fees by registration day.

REGISTRATION FOR BAR EXAMINATION

Many states now require that a student, prior to or shortly after beginning the study of law, register with the board of bar examiners of the state if he intends to practice therein. Each student should write to the secretary of the board of bar examiners of the state in which he plans to practice and ascertain if that state makes this requirement.

CONDUCT OF STUDENTS

All students are admitted subject to the rules of the University and of the School of Law, and continuance in the School is conditioned upon the observance of such rules.

The University expects of its students loyal and hearty co-operation in developing and maintaining high standards of conduct as well as of scholarship. The University, therefore, reserves the right, and matriculation by the student is a concession of this right, to compel the withdrawal of any student whose conduct at any time is not satisfactory to the University.

Fees and Expenses

Tuition fees are due at the beginning of each semester. The tuition fee is \$225.00 a semester. In addition, a general fee of \$50.00 per semester is required in lieu of separate fees for matriculation, medical service, and the like.

The admission of an applicant is not final until he deposits the sum of \$25.00 with the Treasurer of the University. This deposit will not be returned. It will be credited to the account of the student or, if the student is entitled to the benefits of the Servicemen's Readjustment Act or the Vocational Rehabilitation Act, it will be refunded upon his matriculation.

Law students may secure admission to all regularly scheduled University athletic contests held on the University grounds during the entire academic year by payment of the athletic fee of \$10.00 per year plus any Federal taxes that may be imposed. This fee is payable in the fall semester.

The payment of the general fee entitles the student to full medical and surgical care, with the exceptions noted below. This service is under the direction of the University Physician with the co-operation of the staff of Duke Hospital. It includes hospitalization, medical and surgical care, drugs, dressings, X-ray studies, and ward nursing. A charge for board is made at the same rate as in the University dining halls. Refraction of eyes, treatment of teeth and of all chronic conditions, such as the removal of diseased tonsils, are not included in this service. The cost of any necessary braces and orthopedic appliances, as well as of special nursing, must be borne by the student.

Due to rising costs it may be necessary to consider some readjustment of charges. In the event of an adjustment applicants will be notified.

A statement relative to scholarships, fellowships, and loan funds appears in the *Bulletin of the School of Law*. A description of dining facilities and living quarters is also given in this bulletin.

LAWS REGARDING PAYMENTS

The Executive Committee of Duke University has enacted the following regulations which govern the payment of all fees due the University:

1. The President and the Treasurer of the University have no authority to suspend or in any way alter these regulations.
2. Any student who has failed to pay his bills on the dates advertised in the catalogue is denied the right to attend classes until his account is settled in full; subsequent withdrawal does not entitle a student to a refund.
3. No student is considered by the Faculty as an applicant for graduation until he has settled with the Treasurer for all his indebtedness to the University.
4. No student who has not settled all his bills with the Treasurer of the University is allowed to stand the midyear or final examinations of the academic year.

When a student wishes his bills sent to his parents or guardian, the student or his parent or guardian must so notify the Treasurer of the University in writing in due time, but this in no way releases the student from liability to established penalties, if his bills are not paid on the dates advertised.

Bachelor of Laws Degree



UPON favorable recommendation of the Faculty, the degree of Bachelor of Laws will be conferred on students who shall have successfully completed six semesters' study of law, the last two semesters of work immediately preceding the granting of such degree having been completed in this School.

A student shall be deemed to have completed successfully six semesters' study of law if during this period he has

(1) secured a passing grade in courses aggregating seventy-eight semester hours;

(2) secured in every required course a grade not requiring repetition thereof; and

(3) secured a weighted average at least five points above passing in all work taken other than first-year courses, or, if the grade in such work is lower than that above specified, an average grade of five points above passing in all work taken.

Students who have spent only their last two semesters of study in residence in this School must have received a weighted average at least five points above passing for that year.

MINIMUM AND MAXIMUM STUDENT LOADS

No regular student is permitted to take less than ten course hours per semester. No first-year student is permitted to take courses in excess of the first-year program.

Second- and third-year students are not permitted to take for credit more than fifteen course hours per semester; nor to audit and take for credit more than sixteen course hours per semester. In exceptional cases, students may petition the Faculty for permission to take more or less than the prescribed maximum or minimum loads.

ATTENDANCE

Regular class attendance is required. The right to take the examinations, as well as the privilege of continuing one's membership in the School at any time, is conditioned upon regular attendance at the exercises of the School.

STANDARDS OF SCHOLARSHIP

GRADES.—The final grades in each course are given in numerical grades which are equivalent to letter grades according to the following scale: 80 to 100, A; 70-79, B; 55-69, C; 50-54, D; 0-49, F.

A grade of 50 is necessary for passing a course. Where a grade below 50 is given a student in any required course, the course must be repeated if the instructor reports the grade with the notation "must repeat." When a student is required by the instructor to repeat a course which he has failed, the grade given after such repetition supersedes the previous grade in the course.

ELIGIBILITY TO CONTINUE LAW STUDY.—Any student who at the end of his first year or at the end of any subsequent semester, has an average grade lower than 50 on all the work then taken is ineligible to continue his work in the School. Any other student (1) whose average final grade at the end of his first semester is below 50, or (2) whose average grade at the end of any subsequent semester on all the work then taken is below 55, or (3) who in any single semester or in any single year receives failure grades in courses totaling eight or more semester hours, may at any time be declared by the Dean ineligible to continue.

NOTIFICATION OF UNSATISFACTORY SCHOLASTIC STANDING.—Every student subject to the provisions of the second sentence of the paragraph above, who has not been declared ineligible to continue his work in the School will be given a formal, written notice by the Dean's Office. This notice will set forth his average grade or grades and inform him (1) that he will be subject for the ensuing year to the special supervision of the Dean who may order his dismissal from the School in the event of his failure to maintain a satisfactory scholastic standard, and (2) that he will be ineligible to receive a degree unless his work meets the scholastic requirements for graduation which will be set forth in full in such notice.

Every other student whose average final grade at the end of any semester on the work of that semester, or on all work then taken, does not exceed the minimum average grade required for graduation by more than two points will be given a notice similar to that provided for above.

Graduate Work in Law



Objectives of the Graduate Study Program

THE graduate program of the School of Law is framed with a view to the encouragement and recognition of legal scholarship. It is addressed to the needs of those who have objectives consistent with the purposes of graduate legal education. It provides training for the qualified student who aspires to a teaching career, or who wishes to become proficient in a special field of the law, to do serious legal research, to prepare himself for a public law practice in or out of government, or to acquire a broader and deeper legal education than the undergraduate curriculum offers.

Master of Laws

ADMISSION TO CANDIDACY FOR THE DEGREE OF MASTER OF LAWS

Any person who has received the first degree in law from a law school qualified for membership in the Association of American Law Schools may be admitted as a candidate for the degree of Master of Laws, provided he satisfies the Committee on Graduate Study that his objective in desiring to do graduate work in law is consistent with the purposes for which the program is offered, and provided he demonstrates to the Committee, on the basis of his law school record, his capacity to take and profit by graduate work in law. In exceptional cases an applicant who does not meet the above requirements may, on vote of the Faculty, be admitted to candidacy for this degree if he is able to demonstrate that he is specially qualified, as by reason of practice or teaching. Normally the applicant will be required to show a level of scholarship appreciably higher than that required for the first degree in law at the institution from which he received that degree. An exceptionally high record in law school and in the graduate study program is expected of those who aspire to a teaching career. It should be emphasized that the graduate study program is designed for graduates with a definite objective, not for those who seek to pursue further law study simply from disorientation.

REQUIREMENTS FOR THE DEGREE OF MASTER OF LAWS

The degree of Master of Laws is reserved for students who, having demonstrated their capacity for graduate work in law, maintain a level of scholarship substantially higher than that required for the degree of Bachelor of Laws.

The candidate for this degree is required to complete a course of study comprising not less than twenty nor more than twenty-six semester hours, or approved research equivalent thereto. Two full semesters are required for the completion of this program. A candidate for this degree is required to include in his course of study at least two of the following courses: International Law, Jurisprudence, and Legal History. In addition to the minimum requirement of twenty semester-hours, the candidate is required to submit an essay representing substantial research on a legal subject. This essay is to be prepared under the supervision of the instructor in charge of the field in which the research is done. The candidate will find it helpful to have formulated a project of research, or alternative projects, before his admission to graduate study or, at any rate, before pursuing his graduate study in residence.

The candidate's course of study will be selected, ordinarily, from the following list of courses: Public Regulation of Business Seminar, Jurisprudence, Conflict of Laws, International Law, Legal History, Advanced Legal Accounting, Corporate Planning, Debtors' Estates, Insurance, Corporate Reorganization, Securities Regulation, Credit and Insolvency, Family Law, Family Law Seminar, Future Interests, Tax and Estate Planning, Labor Relations, Labor Standards, Labor Law Seminar, Federal Taxation I, Federal Taxation II, and State Taxation. This program of study is not inflexible. In appropriate cases the candidate will be encouraged to take related work in other departments of the University. Other courses of comparable content may be substituted for those listed. In special circumstances, credit not in excess of two hours per semester may be arranged for special, supervised research projects.

Doctor of Juridical Science

ADMISSION TO CANDIDACY FOR THE DEGREE OF DOCTOR OF JURIDICAL SCIENCE

Any person holding the degree of Master of Laws from this or any other law school which is qualified for membership in the Association of American Law Schools may, on vote of the Faculty, be admitted to candidacy for the degree of Doctor of Juridical Science, provided he completed the work for the Master's degree with distinction.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF JURIDICAL SCIENCE

Upon favorable recommendation of the Faculty, the degree of Doctor of Juridical Science will be conferred on students admitted to candidacy for that degree who complete and submit a monograph or series of essays suitable for publication and deemed by the Faculty to be of distinguished character and who pass an oral examination before a special committee appointed for that examination. At least one academic year, and, in the absence of an extension granted by the Faculty, not more than three years, must elapse between the award of the Master's degree and the award of the degree of Doctor of Juridical Science. Students who have received the degree of Master of Laws from another law school must spend at least two full semesters engaged in research at this School, and in addition may be required to complete a course of study prescribed by the Committee on Graduate Study. The monograph or series of essays required may be based upon, or be an extension of, the essay required for the Master's degree, provided substantial additional research is represented.

Post-Graduate and Refresher Courses

The School of Law provides instruction for students not meeting the requirements for admission to candidacy for graduate degrees who desire refresher courses or who desire simply to complete a fourth year of law school work. The successful completion of the courses taken by such students may be evidenced by certificate of the Dean.

Program of Instruction



THE program of instruction of the School of Law has been thoroughly revised as a result of studies made by the Faculty. The curriculum had become overcrowded. For years new courses have been added at this and other schools as new fields of law have become important; old courses have been retained. Students who wished to specialize in particular fields often found it necessary to omit some of the older, more fundamental courses. Insufficient attention had been given to legal writing, the drafting of legal instruments, and legal planning.

The newly adopted curriculum is designed to insure that students may prepare to specialize in practice without foregoing any part of the basic legal education required for general practice and desirable for all specialists. Courses have been combined; duplications in courses have been eliminated. The larger part of students' third year has been opened for studies of specialties. New courses and seminars have been added, especially in the third year in which teaching methods will be different from those used in the older courses. In these courses and seminars legal writing and drafting and legal planning will be emphasized.

The courses offered are listed below. They are grouped under three headings: First-Year Program, Second-Year Program, and Third-Year Courses. At page 300 the individual courses are described: in that section of the Bulletin they are grouped under the following headings: Business Courses; Property Courses; Public Law Courses; General Courses; Procedure and Practice Courses.

THE FIRST-YEAR PROGRAM is prescribed. It includes basic courses in the fields of contracts, business associations, property (including sales and other chattel transactions), and torts. These courses serve also to acquaint the student with the nature of the judicial process (which is stressed in Chattel Transactions), the court system and court procedure (stressed in Torts), and legal history (stressed in the property course and in other courses). In the field of public law, legislation and the legislative process are studied in the first semester; criminal law and procedure is given throughout the year. A course in research and writing (which is continued through the first semester of the second year), after consideration of how the law is found in law books, trains students in writing memorandums of law and legal arguments and in drafting legal documents; the course emphasizes, for

each student, the law of the state in which he intends to practice, and introduces students to the art of legal planning. It includes the preparation of briefs and the arguing of moot court cases.

The SECOND-YEAR PROGRAM comprises nearly all the other basic courses which all students need regardless of what kind of law practice they plan to enter and the courses prerequisite to third-year work in special fields and in legal planning. Third-year courses may be substituted for non-required courses in this program upon approval of the instructor. The research and writing course continues through the fall semester. The basic work in property and business associations is completed. In the field of business transactions, the students study negotiable instruments and security. A course in federal income taxation, basic to advanced third-year work for specialists, adequately covers the subject for students not planning to specialize in it. Legal and equitable remedies, and court procedure in civil cases, are studied in the course in remedies. Students continue their study of public law in courses in constitutional and administrative law.

THE THIRD-YEAR COURSES (of which an aggregate of 10 to 15 hours each semester is to be selected by each student) are designed to emphasize legal planning and drafting and to enable students to equip themselves to specialize in particular fields. The Faculty recommends that all students complete their basic legal education by taking courses in evidence and legal ethics. There are also fundamental courses in legal history and jurisprudence and in conflict of laws and international law. The rest of the third-year courses are in specialties; they are grouped below under the headings (1) business (including advanced corporation law), (2) estates, family, and property, (3) procedure, practice, and local law, and (4) public law (including labor law and taxation). A number of these specialty courses (those preceded by asterisks in the list below) emphasize legal planning and drafting. Each student is required to include two of these courses in his third-year program; enrollment in each is limited.

The First-Year Program

	SEMESTER HOURS	
	Fall	Spring
Chattel Transactions	2	2
Contracts	4	2
Criminal Law and Procedure	2	2
Research and Writing I	1	1
Torts and Introduction to Procedure	3	3
Legislation	3	
Business Associations I		2
Estates in Land		3
	15	15

The Recommended Second-Year Program

	SEMESTER HOURS	
	Fall	Spring
Civil Procedure [Required]	3	2
Constitutional Law and Federal Courts [Required]	3	2
Research and Writing II [Required]	1	
Administrative Law [Required]		3
Business Associations II	3	
Conveyancing	3	
Restitution and Equitable Remedies		2
Negotiable Instruments	2	
Security		3
Federal Taxation I		3
	15	15

Substitutions of third-year courses for non-required second-year courses may be made with permission of the instructors in the former. Third-year courses suitable for study in the second year are Family Law, Insurance, Labor Relations, Trusts, and Wills. A student omitting a second-year course from his second-year program may find himself unable to take that course in his third year because it and a third-year course he wishes to take may be scheduled at the same hour.

The Third-Year Courses

Students are to select courses aggregating 10 to 15 hours each semester. Every student must select two of the starred courses listed under "B. Specialties." These courses emphasize legal planning and drafting. Enrollment in each of them except Legal Aid Clinic is limited to 15. Legal Aid Clinic counts as a single starred course, though it is a year course. No student may take more than two starred courses in the same semester without the consent of the Dean and of the instructors in the starred courses involved.

A. ADVANCED COURSES

Conflict of Laws	3
International Law	3
Jurisprudence	3
Legal History	2

B. SPECIALTIES

I. Business (See also "IV. Public Law.")

*Corporate Planning and Drafting	2
Insurance	2
Debtors' Estates	3
*Advanced Legal Accounting (Not Offered 1955-1956)	2
*Securities Regulation	2

II. Estates, Family, Property

Family Law	2
Future Interests	3
Trusts	3
Family Law Seminar	2
*Tax and Estate Planning	2
Wills and Administration of Estates	2

III. Procedure, Practice and Local Law

Evidence	2	2
*Legal Aid Clinic	2	2
*Case Studies	1	
North Carolina Statutes and Decisions	2	
Legal Ethics		1
North Carolina Practice		2

IV. Public Law

Federal Taxation II	3	
Labor Relations	3	
Municipal Corporations	2	
*Constitutional Law and Federal Courts Seminar		2
*Labor Law Seminar		2
Labor Standards		2
*Public Regulation of Business Seminar		3
State Taxation		2
*Tax and Estate Planning		2

Description of Courses



Business Courses

ADVANCED LEGAL ACCOUNTING. The study and analysis, in more detail than in Business Associations II, of the balance sheet, the income statement, and the accountancy concepts and principles that serve as controls over corporate distributions; financial reporting and investor protection; trust and estate accounting; and some problems in accounting with respect to public utility regulations. Two hours a week first semester. (Not offered 1955-56). **MR. LATTY**

BUSINESS ASSOCIATIONS I. Legal principles concerning association in business by agency, partnership, other unincorporated forms and corporations. Creation, form and nature of agency, partnership and corporation, corporate existence (de factor corporations, corporate entity and its limitations), powers, duties, liabilities and compensation of agents, partners, officers and directors, risks in conduct of business by representatives (vicarious liability in tort, authority to contract), imputation of notice and knowledge, scope of enterprise (*ultra vires*), revocation and termination of authority, ratification, undisclosed business associates, stability of the associational relationship. The purpose of this course is to grasp basic principles of Agency and Partnership and related principles of corporation law. (The main basic study of corporation law, however, is in Business Associations II.) Two hours a week second semester. **MR. LATTY**

BUSINESS ASSOCIATIONS II. Promoters, subscription to and issue of shares, stock structure and corporate capital, dividends, preferred stock, bonds, capital increases and reduction, corporate re-acquisition of own stock, elementary principles of corporate accounting, public issue of securities, stock transfers, fundamental corporate changes (recapitalization, sale, merger and consolidation, dissolution), stockholders' suits, and certain principles concerning management and operation not studied in Business Associations I. Three hours a week first semester. **MR. LATTY**

CONTRACTS. The formation and legal operation of contracts in general, with attention to problems of drafting and counseling as well as of litigation and extrajudicial settlement. Legal and equitable remedies in contract cases, including damages, specific performance, and restitutionary remedies, and important procedural devices incident to such remedies. Four hours a week first semester, two hours a week second semester. **MR. STANSBURY**

CORPORATE PLANNING AND DRAFTING. The student is given hypothetical corporate problems (perhaps taken from the practicing lawyer's desk) on a client's proposed course of action; each problem is designed to require the student to grasp the business situation and goals involved, analyze for pertinent legal principles, plan the transaction to avoid legal and business (including taxation) pitfalls, plan the requisite steps to consummate the desired transaction, draft the appropriate papers and present his research. Two hours a week second semester. **MR. LATTY**

SECURITY. Mortgage and security interests in real property, and suretyship. Three hours a week second semester. **MR. SHIMM**

DEBTORS' ESTATES. Comparative study of methods used for the liquidation of debtors' estates. The non-bankruptcy materials cover individual creditors' rights by attachment, garnishment, execution, creditors' bills and the like; common law composition; and general assignments. The bankruptcy materials cover, in the main, the first seven chapters of the Bankruptcy Act. Three hours a week first semester. **MR. SHIMM**

INSURANCE. The nature of "insurance"; state supervision and control; types of insurance organization; the legal requirement of insurable interest; interest of others than the named insured; the measure of indemnity and subrogation; the beneficiary's interest in life insurance; the insured event, and excepted causes; warranties, representations and concealment; the making of insurance contracts; waiver, estoppel and election. Two hours a week second semester. **MR. PASCHAL**

NEGOTIABLE INSTRUMENTS. Comparative study of the different types of commercial instruments, their different functions and legal incidents. Two hours a week first semester. **MR. SHIMM**

PUBLIC REGULATION OF BUSINESS SEMINAR. See Public Law Courses, page 35 for description. Three hours a week second semester.

MR. LIVENGOD AND MEMBERS OF THE ECONOMICS DEPARTMENT STAFF

SECURITIES REGULATION. Regulation of distribution and marketing of securities and protection of the investor under the Securities Act of 1933, the Securities and Exchange Act of 1934, the Public Utility Holding Company Act of 1935 and the Trust Indenture Act of 1939, with summary treatment of other related federal legislation; the role of the Securities and Exchange Commission; a brief survey of state regulation. Considerable emphasis is placed on civil liabilities under the federal legislation. Two hours a week second semester. **MR. LATTY**

Property Courses

CHATTEL TRANSACTIONS. The course covers most of the topics generally treated under the heading of Personal Property, Bailment and Sales; application of the concepts of possession and title in the law of personal property and sales, with special attention to the judicial techniques with these concepts; the bailment relationship; artisan's lien; transfer of chattels by gift, sale and miscellaneous inter vivos transactions. In Sales, the emphasis is on enforcement of buyers' and sellers' rights and on sales financing. Two hours a week throughout the year. **MR. LATTY**

CONVEYANCING. Form and execution of deeds, description in deeds; rents, licenses, easements and profits; covenants and agreements running with the land at law and in equity; estoppel by deed; recording and title registration; aspects of public control of land use. Three hours a week first semester. **MR. BOLICH**

ESTATES IN LAND. Historical introduction to real property with a detailed consideration of the modern law of possessory estates, including the fee simple, the fee tail and its statutory substitutes, the life estate, the estate for years and other non-freeholds; concurrent ownership; waste; aspects of possessory ownership relative to use, water, lateral and subjacent support and air. Three hours a week second semester. **MR. BOLICH**

FUTURE INTERESTS. Future interests in real and personal property; reversions; vested and contingent remainders; executory interests; rights of entry; possibilities of reverter; gifts to classes; powers; perpetuities; construction of wills and deeds as affecting the validity and characteristics of the interests created thereby. Three hours a week first semester. **MR. BOLICH**

TAX AND ESTATE PLANNING. Seminar devoted to problems and techniques of tax and estate planning. Federal Taxation I and Federal Taxation II and Future Interests are prerequisite to enrollment in the seminar. Two hours a week second semester. **MR. BOLICH AND MR. LOWNDES**

TRUSTS. The nature, creation and elements of a trust; transfer of the beneficiary's interest; administration of trusts; termination and modification of trusts; charitable trusts; liabilities to third persons; and liabilities of third persons. Three hours a week first semester. **MR. LOWNDES**

WILLS AND ADMINISTRATION OF ESTATES. Descent and distribution; property rights of surviving spouse; children and descendants; ancestors and collaterals; effect of claimant's misconduct. Making and revoking wills; testamentary capacity; execution of wills; holographic and special types; integration; testamentary character and intent; revocation; operation of legacies and devices. Probate and administration; grant of administration; probate and contest of wills; assets; contracts, sales and investments by personal representative; claims; settlement of the estate. Two hours a week second semester.

Mr. McCLAIN

Public Law Courses

ADMINISTRATIVE LAW. The formulation of statutory schemes of administrative regulation; the organization of administrative agencies; the determination, promulgation and enforcement of administrative programs; the respective spheres of administrative and judicial responsibility; judicial control over administrative action. Practice and procedure before administrative agencies; informal conferences and negotiations; formal hearings; constitutional limitations. Three hours a week second semester.

Mr. KRAMER

CONSTITUTIONAL LAW AND FEDERAL COURTS. Judicial protection against arbitrary governmental action; the history of the concept of a "higher law"; the constitutional clauses relied upon. The organization and jurisdiction of the federal courts; when and how judicial review can be invoked; limitations on governmental power with respect of economic matters, civil liberties and criminal and civil procedure. The powers of Congress, express and implied; limitations on State governmental powers resulting from the existence and from the exercise of Congressional powers. The constitutional questions involved in administrative law, conflict of laws, intergovernmental tax immunities, jurisdiction to tax, and state taxation of interstate commerce are covered more fully in other courses. Three hours a week first semester, two hours a week second semester.

Mr. MAGGS

CONSTITUTIONAL LAW AND FEDERAL COURTS SEMINAR. Advanced study of current Supreme Court cases and of particular fields in constitutional law and history and in federal court organization. Two hours a week second semester.

Mr. MAGGS

CRIMINAL LAW AND PROCEDURE. An introductory study of the law of crimes and the administration of criminal justice; analysis of the criminal act and the mental element in crime; consideration of specific offenses as defined by statute and the common law; discussion of typical defenses in relation to specific crimes; elementary criminal procedure; study of the Anglo-American penal system. Two hours a week throughout the year.

Mr. McCLAIN

FEDERAL TAXATION I. An introduction to the federal taxation with particular emphasis on the federal income tax. The course is designed as a final course for students who do not intend to specialize in tax practice and as an introductory course for those who do. Three hours a week second semester.

Mr. LOWNDES

FEDERAL TAXATION II. A more advanced course in federal taxation. The principal emphasis of the course is on the federal estate and gift taxes, and the relation of those taxes to the federal income tax. Three hours a week first semester.

Mr. LOWNDES

INTERNATIONAL LAW. A survey of public international law of peace, as evidenced especially in decisions of national and of international courts; the drafting and interpretation of treaties; the nature and handling of international claims; the organization and jurisdiction of international tribunals, with special reference to the International Court of Justice; developments with respect to the codification of the law. Three hours a week second semester.

Mr. WILSON

LABOR LAW SEMINAR. An intensive examination of significant problems in collective bargaining, union-management relations and labor dispute settlement, with emphasis upon the drafting and interpretation of contract clauses, theories and techniques in contract negotiation and grievance handling, voluntary arbitra-

tion and other procedures for the adjustment of disputes, and the interrelation of the legal and economic aspects of labor problems. Prerequisite: Labor Relations. Two hours a week second semester. MR. LIVENGOOD

LABOR RELATIONS. A study of the law relating to collective bargaining and concerted labor activities, including the National Labor Relations Act and related legislation, the legal aspects of strikes, boycotts and picketing, the negotiation and administration of collective bargaining agreements, procedures for the settlement of labor disputes, and relations between the union and individual employees. Three hours a week first semester. MR. LIVENGOOD

LABOR STANDARDS. Government regulation of conditions of employment, including the Fair Labor Standards Act and other wage-hour and child-labor statutes, unemployment insurance and other social security legislation, employers' liability and workmen's compensation acts, and related laws establishing minimum standards for the creation, continuance and termination of the employment relationship. Two hours a week second semester. MR. LIVENGOOD

LEGISLATION. A general introduction to the field of Public Law, including, among others, the following topics: organization, techniques, procedures, and problems of legislative bodies; formulation of legislative policies; and drafting and interpretation of statutes. Three hours a week first semester. MR. LIVENGOOD

MUNICIPAL CORPORATIONS. The nature of municipal corporations; their external constitution; their internal constitution; their powers; their liabilities; remedies for and against municipal corporations. Two hours a week first semester. TO BE ANNOUNCED

PUBLIC REGULATION OF BUSINESS SEMINAR. Intensive study of the federal antitrust laws and their common-law background, with emphasis on the economic policies involved. As a corollary of critical examination of the Sherman Act, Clayton Act, Federal Trade Commission Act and related legislation designed to enforce competition as the primary control of the economic system, some consideration is given to legal measures which supplement or replace competition, such as direct regulation of business and government intervention by public loans, guaranties and ownership. Three hours a week second semester.

MR. LIVENGOOD AND MEMBERS OF THE ECONOMICS DEPARTMENT STAFF

STATE TAXATION. Constitutional limitations on the taxing power; jurisdiction to tax; state excise taxes; and the general property tax. Two hours a week second semester. MR. LOWNDES

TAX AND ESTATE PLANNING. See Property Courses, page 33, for description. Two hours a week second semester. MR. BOLICH AND MR. LOWNDES

General Courses

CONFLICT OF LAWS. A study of the special problems which arise when the significant facts of a case are connected with more than one jurisdiction. Recognition and effect of foreign judgments; choice of law; federal courts and conflict of laws; the United States Constitution and conflict of laws. Three hours a week second semester. MR. KRAMER

FAMILY LAW. A seminar approach to the cases, statutes, and sociological theories covering the contract to marry, its formation and breach; marriage; annulment; divorce; separation; property rights; and international jurisdiction. Selected materials. Two hours a week first semester. MR. BRADWAY

SEMINAR IN FAMILY LAW. A seminar approach to the efforts of the social sciences, including the law, to deal with the intricate and perplexing problems of the modern family. Readings are assigned in legal and sociological material. Class discussions are based upon some central topic, such as divorce, domestic relations courts, etc. Written reports required in lieu of an examination. Family Law is prerequisite. Two hours a week second semester. MR. BRADWAY

JURISPRUDENCE. Discussion of some of the basic problems of classical and contemporary juristic theory, with applications to cases and statutes. Open to all graduate students, and, with the consent of the instructor, to qualified second and third year students. Three hours a week first semester. MR. KRAMER

LEGAL HISTORY. A study of the development of fundamental English and American legal institutions, with primary emphasis upon the establishment and growth of American law from the colonial period to the present. Two hours a week second semester. MR. BOLICH

NORTH CAROLINA STATUTES AND DECISIONS. A study of selected statutes of North Carolina with discussion of their application, and an analysis of the decisions of the Supreme Court of North Carolina construing them. Two hours a week first semester. MR. BRYSON

RESTITUTION AND EQUITABLE REMEDIES. A survey of equitable remedies in general (including enforcement of equity decrees) and of important parts of the fields of equity and restitution that are not covered in other courses. Two hours a week second semester. MR. PASCHAL

TORTS AND INTRODUCTION TO PROCEDURE. The bases of liability in damages for personal injuries and injuries to property; bases other than fault; negligence; intentional infliction of harm. Procedure in jury trials; proof of negligence; causation and "proximate cause"; defenses; the damages recoverable and equitable relief obtainable. Special rules applicable to occupiers and owners of land, motor vehicle accidents, suppliers of goods and remote contractors. Misrepresentation and fraud; defamation; assault and battery; false imprisonment. Three hours a week throughout the year. MR. MAGGS

Procedure and Practice Courses

CASE STUDIES. Detailed analysis of an important civil suit, under supervision of a visiting instructor who was counsel therein. The instructor's files and the record and briefs will be studied. Consideration will be given to how the matter first arose and what business or other problems of the client were involved; how counsel first analyzed the matter and how he ascertained relevant facts; how counsel prepared for and conducted the trial and appellate proceedings. One hour a week first semester. INSTRUCTOR TO BE ANNOUNCED

CIVIL PROCEDURE. A study of modern methods of pleading (including Federal Rules of Civil Procedure) and their relationship to the historical developments insofar as such developments affect or explain present-day rules; also a treatment of real party in interest, joinder of parties, joinder of causes of action, counterclaims, objections to pleadings, amendment to pleadings, and summary disposition of cases. Special emphasis is placed on trial and appellate practice. Three hours a week first semester, two hours a week second semester. MR. PASCHAL

EVIDENCE. A study of the common-law rules of evidence, including the requirements of relevancy and materiality; competency and privilege of witnesses, examination and cross-examination, burden of proof and presumptions, judicial notice, and functions of judge and jury. Two hours a week throughout the year. MR. STANSBURY

LEGAL AID CLINIC. This course is designed to develop in the student professional self confidence, responsibility to the program of the organized bar, professional self control. During the first semester the student learns to: interview a client in an orderly manner, determine the gaps in the client's story and fill in these gaps with information from other proper sources; evaluate facts; make a record of facts including the documents used for the purpose; diagnose a case for legal "symptoms" and develop legal theories; organize research; plan a campaign at law. The class becomes familiar with the courthouse as a source of facts; and with a law office as a place in which a lawyer functions. Special exercises like searching a title to real estate, preparing a criminal case for trial, are assigned.

During the second semester the student learns to conclude a case in an orderly professional manner by education; by conciliation; by litigation. The climax is a jury trial with expert witnesses. The students operate under the supervision of a staff member throughout the year. Students are assigned to duty in rotation in the Legal Aid Clinic office and in the downtown office. This gives them a chance to interview flesh and blood clients and to see the progress of real cases. By preparing trial briefs in court and criminal cases the student learns how to get ready for his appearance in the court room. Two hours a week throughout the year. MR. BRADWAY

LEGAL ETHICS. A seminar approach to the ethical problems of the lawyer and the profession. Readings are assigned in legal biography, law reform, the history of the profession, legal aid work. Class discussions cover canons of ethics, statutes, cases, and opinions of grievance committees dealing with the daily problems of the practicing lawyer. A written report is required on some phase of the reform of the administration of justice. One hour a week second semester

MR. BRADWAY

NORTH CAROLINA PRACTICE. A study of the steps in a civil action at law from the issuance of process to the entry of final judgment including service of process; appearance and waiver of process; selecting the jury; various motions made during the trial; submission of case to jury; verdict; judgment; noting and perfecting appeal. Also included are such topics as jurisdiction of various courts in North Carolina; venue; trials without a jury; provisional remedies and special proceedings. Two hours a week second semester.

MR. BRYSON

Legal Research and Writing

RESEARCH AND WRITING I. Classroom instruction and individual problems in the use of law books, the preparation of memorandums of law, and moot court briefing and argument. The first year of a two-year program designed to familiarize the student with the materials and methods of legal research and legal writing. Two semester-hours credit. MESSRS. STANSBURY, BRYSON, AND BRADWAY

RESEARCH AND WRITING II. The second year of the two-year program of research and writing. In addition to more advanced work of the kind involved in the first-year program, the student will assist in evaluating the work of first-year students and in judging first-year moot court arguments. Required of all second-year students. One semester-hour credit. MESSRS. STANSBURY, BRYSON, AND BRADWAY

Upon recommendation of the Committee on Graduate Study, seminars not listed in the Bulletin may be created or arrangements made for supervision of special research by individual graduate students in any subject.

All matters presented in this Bulletin are subject to change as the University or the School of Law may deem expedient.

THE SCHOOL OF MEDICINE

Winter Quarter, 1955, begins January 3

Spring Quarter, 1955, begins March 28

Summer Quarter, 1955, begins July 5

Autumn Quarter, 1955, begins October 3

Winter Quarter, 1956, begins January 3

Spring Quarter, 1956, begins March 26

Summer Quarter, 1956, begins July 2

Autumn Quarter, 1956, begins October 1

General Information

Introduction

Duke University School of Medicine and Duke Hospital were established in 1930, through the munificent gift of the late James B. Duke. The School of Medicine and Hospital are located in the same building situated on the campus of Duke University. Both have been planned to insure the greatest correlation between the various departments. The students in the School of Medicine are accorded the same privileges and subject to the same laws and regulations as those of the other divisions in the University. Seventy-six students are admitted to the first year class each year and on October 4, 1954 three hundred and eleven students were enrolled.

Aims of the School

The Association of American Medical Colleges has formulated five major aims of undergraduate medical education. These are:

1. To help the students acquire requisite knowledge.
2. To help the student establish essential habits.
3. To help the student achieve basic skills.
4. To help the student to develop sound attitudes.
5. To help the student to gain an understanding of professional and ethical principles.

Duke University School of Medicine has from its beginning in 1930 attempted to maintain these objectives. But additional aims have been (a) the correlation of medical research with medical teaching at all levels and (b) the continuous search for and experimentation with new or improved methods of teaching scientific medicine. The closest possible academic and physical relationship exists between the pre-clinical and the clinical staffs. The nucleus of the clinical staff operates under what has come to be known as the "geographic full-time" plan. Its members have their offices located in Duke Hospital and see private and public patients in the Hospital. This nucleus staff is augmented by a few practitioners of medicine from surrounding areas who teach on a part-time basis.

Degrees

Work in the School of Medicine may lead to the following degrees:

THE DEGREE OF DOCTOR OF MEDICINE. The degree of Doctor of Medicine is conferred on those who have completed, to the satisfaction of the Committee on Health Affairs, the twelve quarters of eleven weeks each of the curriculum of the School of Medicine, and have signed an agreement that they will spend at least two years of the succeeding three years in hospital or laboratory work acceptable to the Committee on Health Affairs. As a guarantee of this pledge the diploma is deposited in the Treasurer's Office until after the completion of this training. At the time of graduation a temporary certificate is issued which must be returned prior to the delivery of the permanent diploma. Failure to fulfill this agreement constitutes a waiver of any claim to possession of the diploma and the degree Doctor of Medicine. At present one half of the required period of approved hospital or laboratory may be active duty in the Armed Forces or U. S. Public Health Service.

THE DEGREE OF BACHELOR OF SCIENCE IN MEDICINE. After the completion of six quarters in Duke University School of Medicine, Duke University, on the recommendation of the Committee on Health Affairs, grants the degree of Bachelor of Science in Medicine to medical students who have completed creditable investigative work, prepared an acceptable report of the investigation, and passed an examination upon the subject of investigation before an advisory committee. Students who elect to undertake work toward this degree must obtain written permission from the Committee on Health Affairs after approval of their program by the head of the department in which the work is to be done. No credit toward this degree is given for additional college work. All students in good standing are encouraged to undertake such investigative work as they may elect with the approval of the head of the department in which they wish to work. All requirements must be completed three months prior to the date on which the B.S. degree is granted.

THE DEGREE BACHELOR OF SCIENCE IN MEDICAL TECHNOLOGY. A minimum of two years of approved college work is required for admission. The degree Bachelor of Science in Medical Technology is awarded upon successful completion of a twenty-one months course. The registration fee which includes tuition, student health and diploma fee for the entire course, is \$300. Other student activity fees are optional. Further information as to specific requirements may be obtained from Dr. Haywood M. Taylor, Duke Hospital, Durham, North Carolina.

THE DEGREES OF MASTER OF SCIENCE AND DOCTOR OF PHILOSOPHY. Work leading to each of these degrees may be pursued in the preclinical departments. For further details concerning conditions under which these degrees are awarded consult the *Bulletin of the Graduate School of Arts and Sciences*.

Student Government

Members of the student body elect an Honor Council, in which each class is represented. It is the duty of the Honor Council to hear all cases involving breaches of conduct on the part of members of the student body. All new students entering the School are required to comply with this system of government.

Facilities

DUKE HOSPITAL. Duke Hospital, an integral part of Duke University School of Medicine, has every modern convenience for the diagnosis, proper care, welfare and comfort of the patients, both ward and private, white and colored, whether they come from Durham or from a distance. It has 592 beds, including 30 bassinets for newborn infants, and 20 premature nursery bassinets. *Medicine*, including dermatology and neurology, has 77 ward beds; *surgery*, including urology, otolaryngology, ophthalmology, and orthopaedics, 135 ward beds; *obstetrics*, including *gynecology*, 59, and 50 bassinets; *psychiatry*, 5; and *pediatrics*, 40. There are 209 private rooms and semiprivate cubicles, 12 air-conditioned operating rooms, 4 obstetric delivery rooms, and ward and student laboratories. Offices and examining rooms for members of the Medical Faculty are located in the Hospital. The Hospital has been approved for internships and residencies by the Council on Medical Education and Hospitals of the American Medical Association, and is approved by the Joint Commission on the Accreditation of Hospitals.

Duke Hospital and its Out-Patient Clinic were opened for patients on July 21, 1930. Through December 31, 1953, 490,326 individuals have been examined, diagnosed and treated. The average daily census of hospital patients during the past year was 458; 158,625 visits were made to the Out-Patient Clinics during the same period. Twenty-one per cent of the patients come from within a radius of twenty miles, the remaining 79 per cent come from the other 99 counties in North Carolina and 36 other states and 3 foreign countries. The average distance traveled by the patient is more than seventy miles.

The Private Diagnostic Clinic was organized to co-ordinate the diagnostic studies, and to give better care to the complicated problems arising in the examination of private patients. The Clinical Staff of Duke Hospital and School of Medicine forms the professional staff

of this clinic, while the financial side is handled by a business manager. The offices and examining rooms are in Duke Hospital, and all of the laboratory and diagnostic facilities of the Hospital and School of Medicine are utilized by the Clinic.

VETERANS HOSPITAL. The Durham Veterans Administration Hospital is located within walking distance of the School of Medicine. This 485 bed general hospital was opened in April, 1953. Its full-time professional staff are all members of the faculty of Duke University School of Medicine and the house staff training at Veterans Hospital and Duke Hospital are closely integrated.

LIBRARY. In addition to the General Library of Duke University and the departmental libraries of biology, chemistry, physics, etc., which have 1,130,000 volumes available for medical students, Duke Hospital Library contains 54,216 volumes of American and foreign medical literature and subscribes to 675 current American and foreign medical and other scientific journals. These books and journals are available daily from 8:30 A.M. to 10:30 P.M. for the students, nurses, staff, and medical profession.

BELL RESEARCH BUILDING. In addition to the School of Medicine and Hospital the William Brown Bell Research Building offers additional teaching and research space. The various departments of the School of Medicine maintain research facilities in this building that are open for student participation.

Medical Care

With exceptions noted below, full medical and surgical care is furnished to all regularly matriculated medical students of the University who have paid the quarterly General Fee. This service is under the direction of the Physician in Charge with the co-operation of the Staff of Duke Hospital. It includes hospitalization (limited to thirty days), medical and surgical care, drugs, dressings, x-ray studies, and ward but not special nursing. A charge for board is made at the same rate as in the University dining halls. Refraction of eyes and treatment of teeth and of all chronic and pre-existing conditions, such as diseased tonsils, hernia, elective surgery, chronic skin conditions, endocrine disturbances, etc., or accidents or illnesses occurring during vacations or while off the campus are not included in this service. The cost of any necessary braces and orthopaedic appliances, as well as of special nursing must be borne by the patient. If the student has insurance providing hospitalization, surgical, or medical benefits, the benefits shall be applied to the cost of his medical care.

GENERAL INFORMATION FOR APPLICANTS

Years of college work required for entrance	3
Resident tuition and fees for freshman year	\$900
Non-resident tuition and fees	\$900
Estimated cost of equipment (books, supplies, etc.) freshman year	\$235
Estimated microscope expense	\$180
Estimated minimum cost of room and board for freshman year	\$600
Amount of non-refundable application fee	\$5
May give early decision to applicant preferring this school but offered a place in another school	Yes
Medical College Admission Test required	Yes

1956-57 FRESHMAN CLASS

STATISTICS FOR 1954-55
FRESHMAN CLASS

Size of freshman class	76	Number of applicants	691
File application for admission between	Aug. 15, 1955 Dec. 1, 1955	Percentage of entering freshmen who had completed four years of college	74%
Applicant will be notified of action on his application between	Nov. 1, 1955 Feb. 15, 1956	Percentage of entering freshmen interviewed	100%
Amount of deposit fee required on or after January 15, 1956, to hold place in class if applicant is accepted	\$50	Percentage of entering freshmen for whom results of the Medical College Admission Test were available	91%
Date entering class starts program	Oct. 1, 1956	Percentage of applicants who were women	5%
Address inquiries to: Committee on Admissions Duke University School of Medicine Box 3710, Duke Hospital Durham, North Carolina		Percentage of women in the freshman class	5%
		Number of out-of-state residents in freshman class	43
		Number of foreign residents included in the item above	2

Admission

"I request that great care and discrimination be exercised in admitting as students only those whose previous record shows a character, determination and application evincing a wholesome and real ambition for life."—James B. Duke.

Intelligence, character and a transparent integrity are the essential qualifications for admission.

A premedical student should be aware of the importance of a well-rounded general education as a preparation for the study of medicine and not limit himself to scientific courses. Experience has shown that the medical student with a considerable science background enjoys no advantage over his classmates with less premedical science preparation. The Admissions Committee believes that of greater importance than the specific subjects taken is the manner in which the college load is carried. The premedical student would be better advised to secure a knowledge of the principles and a thorough appreciation of the interrelations of the basic sciences than to accumulate credits in many courses. He should learn how to work independently, to observe critically and to analyze rather than to simply store the information presented. Good study habits and efficacious use of time are perhaps the most important tools a student can bring to the study of medicine. His choice of studies beyond those required for admission should be governed by his own chief interests and by the intellectual stimulus to be derived from the work. In general he should avoid courses in subjects which are included in the medical curriculum.

Application for Admission

During the period August 15 to December 1 application forms may be obtained by writing to the Committee on Admission, Box 3710, Duke Hospital, Durham, North Carolina. A check or post office money order for \$5, payable to Duke University School of Medicine, must accompany each request for an application. This fee is not refundable. Due to the large number of applicants to all medical schools candidates are advised to apply to at least four schools. Special consideration will be given to those applicants who may receive an acceptance from another school, and be forced to secure that acceptance with a deposit before hearing from Duke but who prefer to come to Duke.

Requirements for Admission

1. A minimum of ninety semester hours of approved college credit is necessary for admission to the school. It must include:

- (1) Two years of English of which the second year should be chiefly composition and theme writing.
- (2) Two years of chemistry, the first inorganic and the second analytic and organic.
- (3) One year of college physics.
- (4) One year of biology.
- (5) One year of mathematics.

2. Medical College Admission Test. This test is required of all applicants. It is administered by the Educational Testing Service, P. O. Box 592, Princeton, New Jersey. This test is given at many of the colleges throughout the country in May and November of each year. Arrangements for taking this test should be made by the student through his premedical advisor.

Selection

Selection is made during the period October 1 through February 15 for the students entering the following October. The data on each candidate are carefully screened by the Committee on Admissions. When further evidence is indicated a personal interview is requested. If the distance from Durham is permissible the interview is conducted here. Where the distance is prohibitive the candidates are referred to our regional representatives. Many factors are evaluated by the Committee in the selection process. In the end those students are admitted who show the most promise for exceptional future practice of medicine. The candidate is notified as soon as possible whether or not he has been accepted. If he has been accepted it is necessary to send a deposit of \$50.00 by the succeeding January 15 in order to insure enrollment. This deposit is applied toward tuition. Inasmuch as admission must be offered a considerable period in advance of matriculation the admission must be provisional upon the successful completion of the remaining college work. In addition a physical examination is necessary prior to enrollment.

Advanced Standing

Applications for transfer into the second and third year classes will be considered only if space permits. No applications for entrance to the fourth year will be considered. For entrance to the third year, Part I of the National Board Examination will be required as evidence of satisfactory accomplishment in the subjects of the first two years.

Curriculum

The first year is divided into two parts, each comprising one and one-half quarters. The next three years function on a quarter basis. No work is offered during the summer between the first and second years but the work of the last six quarters is offered each quarter permitting an optional accelerated program. In this manner, a student may take his summers off and complete the medical curriculum in the conventional four calendar years or he may take work during the summers between the second and third and/or third and fourth years and complete the medical curriculum in December or March of the fourth year. Approximately three-fourths of our students elect the accelerated program and many complete the required course work in December and begin internships on January 1, thereby saving six months. Graduation exercises are held only in June of each year so those who finish in December or March are issued certificates but the degree is granted at the following June commencement.

Every effort is made to emphasize the close relationship of pre-clinical and clinical instruction. Some members of the clinical staff assist in the teaching of preclinical subjects and demonstrate to the students of the first two years patients whose conditions illustrate the subjects being taught. Thus, from the student's first days, he is impressed with the interdependence of all branches of medical science. In the junior and senior years, preclinical instructors assist the clinical staff in presenting the underlying basis of disease.

An opportunity is offered in the curriculum for elective work. No credits are given, but opportunity is provided for each student on his own initiative to obtain additional training which he may feel to be necessary or desirable. Elective courses have been organized for small groups, or the time may be utilized in independent work (including research) in any department, clinical or preclinical. Arrangements for taking such courses or doing other work are made through the Curriculum Committee.

Students are encouraged to take a portion of their medical school work at other schools. Permission must be obtained in advance from the Committee on Health Affairs and the full tuition at Duke must be paid for that quarter. If the charges at the school where the work is taken are less than those at Duke they will be paid by Duke and if more the difference must be made up by the student. At the completion of the work in another school an examination in the subject will be conducted by the department at this medical school.

Promotion

Promotion committees composed of the heads of the departments offering instruction in those years periodically review the records of students. The Committee on Health Affairs, acting on recommendations of the promotion committees promote those qualified, warn those whose work is unsatisfactory, place on probation those whose work is very unsatisfactory and request the resignation of those considered unpromising candidates for the degree Doctor of Medicine. A student wishing to appeal this decision may do so to the Chairman of the Committee on Health Affairs within two weeks of his notification.

The Committee on Health Affairs reserves the right to require the withdrawal of any student at any time when, in the opinion of the majority of its members, he is unfit to continue his course.

Financial Information

Fees and Expenses

Listed below is a table of the approximate expenses per quarter of registration in the School of Medicine. These figures represent the average among the men, women, married and single medical students during the academic year 1953-1954.

ESTIMATED EXPENSES PER QUARTER

Tuition and fees, per quarter.....	\$307.50
Board	160.00
Room	90.00
Books	54.00
Clothing	31.00
Recreation	39.00
Health	9.00
Travel	12.50
Laundry	38.00
Insurance, instruments and incidentals*.....	84.00
	<hr/> \$825.00

All fees for each quarter are due and payable at the beginning of each quarter (including the first year). A fine of \$5.00 is charged for late registration after the first 5 days of the quarter. No credit will be given for any quarter in which the tuition has not been paid whether the work has been done here or elsewhere. Students who have been permitted by the Curriculum Committee to spend a quarter at another medical school or hospital may subtract the amount of tuition paid elsewhere from that due here for that quarter.

Information about rooms in the Men's Graduate Center and Epworth Hall on the Woman's College Campus may be obtained by writing to the Duke University Housing Bureau, Duke University, Durham, N. C.

* Microscope, sphygmomanometer, ophthalmoscope, otoscope and other equipment, which are required of each student and which must conform to rigid standards, may be obtained on a rental basis from the University.

Departments of Instruction

*Anatomy**

The required courses of instruction in gross human anatomy, histology, and neurology are scheduled for five and one-half days a week for a period of sixteen weeks during the first year. Emphasis is placed upon the study of material in the laboratory. In an attempt to utilize more fully the laboratory time, visual educational methods are employed as fully as possible. These techniques consist of colored motion pictures of demonstration dissections, colored lantern slides, and motion pictures, both embryological and neurological. All of the instruction is designed to be as informal and as nearly individual as possible. General principles and the functional viewpoint of living anatomy are stressed in the hope that the student may be stimulated to secure a working knowledge of anatomy in the broadest sense. Whenever possible, fresh tissues and living cells are made available for examination, and clinical cases exemplifying anatomical principles are studied whenever they are available at appropriate times. Through the co-operation of the Department of Radiology, the students are given an opportunity to study portions of the living human body as revealed by the fluoroscope and roentgenograph. The following elective courses are offered:

Demonstrations in Anatomy. Using dissections already prepared, weekly demonstrations of selected regions or systems are made by the members of the group. Sixth quarter—Two hours per week by arrangement. Second-year students in groups of 10.

Review in Anatomy. During the sixth quarter, a review in anatomy will be presented by the visual education methods outlined above, covering gross and neuro-anatomy, and histology.

Special Neuro-anatomy. Laboratory work and conferences upon selected portions of the human central nervous system. Limited to 6 junior or senior students. Two hours weekly by arrangement.

Brain modeling. Free-hand reconstruction in clay, from gross and sectioned material, of the chief tracts and nuclei of the human brain stem. By arrangement—4 to 10 students.

* Staff members for the Departments, the Hospital, and Paramedical Courses, are listed in the *Bulletin of the Medical School*.

Experimental Neurology. An operative and laboratory study of the effect of various lesions upon the central and peripheral portions of the nervous system. 4 to 8 junior and senior students by arrangement. Prerequisite—operative surgery.

Advanced Studies in Anatomy. These may be arranged at any time under the direction of the various members of the staff.

Review for Orthopaedic Anatomy. A one hour weekly review of the anatomy related to orthopaedic surgery.

Review for Surgical Anatomy. A one hour weekly review of the anatomy related to general surgery.

Biochemistry

The required course in biochemistry for first-year students is given over a period of sixteen weeks in the spring semester. The first phase is devoted to a survey of the chemistry of the materials fundamental to all life, proteins, fats and carbohydrates and the nature of enzymatic action. This is followed by consideration of those events in intermediary metabolism common to the life of all mammalian cells. Thereafter, the course in biochemistry is integrated with that in physiology. The special metabolism of muscle, nerve, the eye, the kidney, bone, connective tissue and the chemical aspects of digestion, respiration, electrolyte, acid-base and fluid balance are presented at such times with relation to the study of the physiology of these organs and processes as to facilitate integration and correlation of the two disciplines. The final phase of the program is a consideration of human nutrition. Throughout the course, the student performs laboratory experiments designed to illustrate and amplify concepts considered in lectures and conferences.

Since the success of the students in this course is largely determined by the adequacy and ready availability of their premedical training, it is urged that all students review the fundamental laws, theories, and facts of chemistry before the beginning of the course. A circular outlining the topics requiring special attention is sent to all students upon admission. Additional copies of the circular may be obtained from the Dean's Office.

General Biochemistry. A lecture and seminar course, meeting three hours weekly during the Autumn, Winter and Spring quarters for qualified graduate students. Emphasis is given to enzymology and comparative biochemistry.

Biochemical Techniques. Hours by arrangement; for students who have had either of the basic courses. By repeating classic experi-

ments, the student is introduced to each of the major tools of modern biochemical investigation.

Biochemical Research. The facilities of the department, including various types of research equipment and the clinical material of the blood chemistry laboratory, are available to properly qualified students for independent or supervised investigations. Chemical investigations of problems in biochemistry or in conjunction with the clinical and pathological departments may be carried on.

Chemistry of Proteins and Enzymes. A two-hour seminar is given weekly throughout the Autumn, Winter and Spring Quarters.

Intermediary Metabolism. A two-hour lecture course and seminar conducted during Autumn, Winter and Spring Quarters. Given alternately with *Seminar in Nutrition*.

Advanced Seminar in Nutrition. A two-hour lecture and seminar course in modern nutritional concepts. Given alternately with *Intermediary Metabolism* during Autumn Quarter.

Biochemistry of Disease. A seminar course meeting once weekly to discuss etiology and pathogenesis of metabolic diseases from the biochemical viewpoint. Given in alternate years in the Spring Quarter.

Medicine

Introduction to Clinical Medicine and Physical Diagnosis. This course is initiated, in the fifth quarter, by introductory lectures, case discussions, and instruction in the methods of physical examination and history taking. Early in the course students begin work at the bedside in the examination of selected patients. Emphasis throughout is placed on instruction individually or in small groups. The interpretation and pathogenesis of all abnormal findings are stressed. The Departments of Neurology and Psychiatry provide training in neurological and mental examinations. This plan of teaching continues in the sixth quarter, when, in addition, instruction in the more specialized methods of examination is provided through the co-operation of the Departments of Surgery, Obstetrics, Gynecology, and Radiology.

Clinical Microscopy is given in the fifth quarter. The course includes the essentials of hematology and the examination of fresh material, such as urine, stools, spinal fluids, sputum, transudates, and exudates. The most important parasites of man are studied by the use of fresh and museum material. Second-year and senior students are given opportunities for special work and for investigation. This course is supplemented in the Junior and Senior years by Hematology Conferences, which are held weekly, and Ward Rounds, which are held three times weekly.

Cutaneous Medicine and Syphilology. Instruction consisting of lectures, seminars, the study and treatment of patients in the out-patient clinics, and on the wards is offered as an elective course.

Junior and Senior Medicine. The medical students are assigned to the medical wards as clinical clerks for three quarters of their time and to the medical out-patient department, where they examine patients, for the other part of their time.

Microbiology

Bacteriology, Immunology, and Mycology. The required course is given in the fourth quarter. An intensive study is made of the common bacteria, fungi, and viruses which cause disease in man. The scope of the laboratory course is reasonably wide and acquaints the student with all the methods and procedures employed in bacteriological laboratories. Most of the lecture time is devoted to the immunological and epidemiological aspects of infection. The instruction is designed to give the students a clear conception of: (1) how organisms gain entrance to the body, (2) the type of poisons which they produce, (3) the nature of immune bodies which are produced by the host, and (4) the methods of preventing the disease by active and passive immunization.

Research Bacteriology. Opportunities for original investigations are afforded a few specially qualified students.

Clinical Bacteriology. During their clinical clerkships on medicine (one quarter each for junior and senior classes), the students may perform the routine and special bacteriological work for the patients assigned to them on the teaching service, under the direction of the Department of Bacteriology and in parallel with the Biological Division of the medical clinic.

Obstetrics and Gynecology

Second-year students receive seventeen hours of instruction in the fundamentals of obstetrics and gynecology during their course in physical diagnosis in the sixth quarter. Clinics and demonstrations for junior and senior students are held on Saturdays at 10:30 A.M. during the Autumn, Winter, and Spring Quarters and on Mondays at 11:30 A.M. in the Summer Quarter. During one quarter of the *junior* year each group of students attends ward rounds at 8:30 A.M. on Mondays, Wednesdays, and Saturdays; preoperative conferences at 8:30 A.M. on Tuesdays and Fridays; and the out-patient clinic at 1:30 P.M. five times weekly, for nine weeks. They also attend an endocrine clinic once a week for nine weeks during the junior year.

The students also spend part of each day on the wards. *Senior* students, during their surgical quarter, have ward rounds on obstetrics and gynecology on Saturdays at 8:30 A.M.

Elective courses in the diagnosis and treatment of obstetric and gynecological conditions are offered for junior and senior students.

Pathology

General Pathology. The course in general pathology is given during the fifth and sixth quarters of the curriculum, following completion of the prerequisite courses in anatomy, physiology, biochemistry and bacteriology. All the work of the class is done with small groups, each under the guidance of a senior instructor and his junior assistant. The histological aspects of the pathological processes are studied coincidentally with the gross anatomical and physiological alterations of the tissues, thus maintaining a unity of conception of disease. As the various pathological processes and the diseases arising from their elaboration are studied by the student groups, assignments involving reports on the study of groups of cases are made by individual students. The group work and the individual student reports are supplemented by weekly conferences involving the class as a whole and dealing with problems presented by current autopsies and with other problems of general importance. Student collaboration in post-mortem studies is required. Cases thus studied are presented by the student before the class under the direction of the staff; this takes the form of a clinical-pathological conference in which each student plays a particular role.

Elective Courses. Special courses in pathology are given to students who have completed the course in general pathology. These courses are available through special arrangement.

Clinical-Pathological Conference. A weekly clinical-pathological conference for advanced study is held on Saturdays. It is open to all persons interested, but is designed especially for the Hospital and Medical School Staff. Attendance by all the students is expedite but is optional. Miscellaneous weekly pathological conferences dealing with current cases under treatment on the various services are held for instruction of the staffs concerned.

Student Research. Research facilities are provided for competent students. Those who show an interest in investigative work are given every encouragement and are allowed to work independently or in collaboration with the staff.

Postgraduate Instruction. The staff of the department is composed of senior nonresident and junior resident members. The resident staff consists of interns, assistant residents, and a resident; all of these

are active teachers as well as advanced students of disease. Ample opportunity for the development of a career in the field of pathology is provided for these men.

Medicolegal Instruction. The department works in close cooperation with the local coroner's office. Special medicolegal investigation for others are undertaken from time to time. The department collaborates with other departments of the Schools of Medicine and Law in a course in legal medicine that is given in alternate years.

Pediatrics

Junior and senior students, during their medical quarters, have pediatric ward rounds one hour each week. These junior students receive instruction in introductory pediatrics and the physical diagnosis of infants and children. The senior students are divided into three groups, each of which spends one quarter in pediatrics. During this quarter they are assigned in rotation as clinical clerks on the children's ward, in the nursery, pediatric out-patient department and the well-baby clinics. Students may attend on a voluntary basis the special pediatric clinics—nephritis, cardiac, allergy, convulsive disorders and chronic pulmonary disease. In addition to ward rounds, a weekly staff conference and daily out-patient teaching clinics, special conferences are devoted to normal growth and development, pediatric roentgenology, practical aspects of pediatric nursing procedures and the preparation of diets for infants and children. Under the supervision of the Social Service Department, students visit homes to investigate the social, environmental and family aspects of disease in certain of their patients. Elective courses: Senior students may spend two weeks in general practice with Instructors in General Practice. In addition to the six pediatric internships, there are four in which six months each are spent in obstetrics and pediatrics for graduates who plan to enter general practice. Seven assistant residencies and one residency are available.

Physiology and Pharmacology

The course in medical physiology is given during the sixteen weeks of the second semester of the first year. There are lectures, laboratories and conferences each week in which are presented the general principles of human physiology and their general application to the practice of medicine. The physiology and biochemistry courses are closely integrated.

The course in pharmacology is taught in the first quarter of the second year (fourth quarter). Lectures, laboratories and conferences

deal with the mode of action of drugs in terms of biochemical and physiological processes.

Physiological and Pharmacological Research. The facilities of the department include modern types of research equipment. There are special facilities for research in the fields of respiration, high altitude physiology, circulation and cellular metabolism. Properly qualified students are encouraged to undertake original research in physiology and pharmacology under direction of various members of the staff.

Seminars. Each fall term a seminar for graduate students in physiology is conducted by the staff.

Preventive Medicine and Public Health

Preventive Medicine and Public Health. In the freshman year there are four lectures given to provide some basic orientation predicated upon the fact that disease has a community as well as a personal aspect and that the social component of illness is an important force in the work of the doctor as well as in the life of the community. The student is introduced to disease as a mass or community problem and to medicine as a social institution.

In the sophomore year there is a series of lectures and discussions, which outline in some detail the interrelationships between medicine and society. This course attempts to provide an understanding of the general principles governing the circumstances under which disease occurs and also the general principles used in the development of measures aimed at the control of disease, both communicable and non-communicable. The effect of the physical environment on human health is briefly discussed with special emphasis on the relationship of the practicing physician to environmental control programs and policies. An overview is given of the basic health problems at the various stages of life.

In alternate years, the senior and junior students meet together for eleven one-hour sessions. These sessions are devoted to discussions of the application of the principles of preventive medicine as they can be applied by the physician in private practice. Attention is also directed to the role of community health and welfare agencies as adjuncts to the physician in the management of his individual patient. The case method of presentation and study is used, with groups of students acting as the panel of experts.

Medical Parasitology. This is a lecture and laboratory course given one morning a week in the fourth quarter. Most of the emphasis is placed on the symptomatology, diagnosis and therapy of the various helminthic and protozoal diseases in man; several periods are devoted to medical entomology.

Psychiatry

Instruction starts in the first year with an introductory course in psychiatry. In the second year, methods of psychiatric examination and a general presentation of the main reaction types are given. Each third-year student has a two-week clerkship on the psychiatric ward, and in the fourth year patients are worked up in the out-patient clinic for a period of three and a half weeks. A psychiatric amphitheater clinic is held weekly throughout the year for third- and fourth-year students. Elective courses in psychiatric methods of research, physiological aspects of psychiatry, psychosomatic medicine, psychoanalysis in medicine, and principles of psychotherapy are offered to fourth-year students. Students are invited to attend the staff case conferences, the psychosomatic conferences and the conferences on psychiatric disorders of childhood. Emphasis is placed upon the close relationship of psychiatry to other branches of medicine and the social sciences. Internships are available in psychiatry with the expectation that they will lead to progressively greater interest in psychiatric problems encountered on all other services in the Hospital. Graduate training in psychiatry meeting the requirements of the American Board of Psychiatry and Neurology is given. Regular courses in conjunction with the Veterans Administration Hospital training program are available. Investigation is encouraged.

Radiology

The student teaching schedule in roentgenology consists of a course in roentgen diagnosis and a course in therapeutic radiology. The first is offered during each scholastic quarter on Tuesday and Thursday of each week. The fundamental physics of x-ray is discussed, with the chief emphasis being placed upon the anatomical, pathological and physiological bases for the interpretation of x-ray films. The course is conducted in seminar fashion and no formal lectures are given. The students participate in and lead discussions with the instructor serving as the moderator. An attempt is made to acquaint the student with the aids of roentgenology in diagnostic problems. The correct use of x-rays in diagnosis is stressed.

Therapeutic radiology is given one hour weekly during each quarter. At these sessions the general problem of the treatment of benign, inflammatory and malignant lesions by x-ray and radium is discussed and the accepted views of the combination of these therapeutic agents with surgery is stressed. Representative cases are demonstrated, and the follow-up results are particularly stressed.

A limited number of senior students are permitted to attend rou-

tine film reading sessions in the Department of Radiology. They are also instructed in the fundamentals of fluoroscopic examinations and shown the many pitfalls of the inexperienced fluoroscopist.

X-ray conferences are scheduled with each specialty in the X-ray Conference room with weekly schedules. All x-ray cases on that service the preceding week are shown and briefly discussed for benefit of the house staff and attending students. At the present weekly conferences including the Ear, Nose and Throat, Orthopaedics, Neurosurgery, Thoracic surgery, Pediatrics, Cardiac, Gastro-intestinal, Urology are held and used as part of the teaching program. Tuesday and Friday afternoons special x-ray conferences of x-ray pathology are held. X-ray Pathology conference 5 to 6 P.M. each Wednesday afternoon is given in the autopsy room.

Each Thursday afternoon and Wednesday evening a conference is held by the members of the x-ray staff and visiting radiologists. Difficult cases are brought up for discussion and diagnosis.

Surgery

Introduction to Surgical Technique. This course is given in the 5th quarter of the curriculum and is designed primarily for instruction and practice in the principles of asepsis and their application in surgery. This is accomplished through the medium of a series of major operative procedures on animals under conditions closely simulating those in human surgery. In the process, the student receives intensive training in the techniques fundamental to operative surgery and to the principles and practice of surgical anesthesia.

General Surgery. In the sixth quarter the students, during their course in physical diagnosis, attend clinics and demonstrations arranged to familiarize them with the techniques of examinations and diagnostic procedures used in general surgery and the surgical specialties. They also have the opportunity in this quarter to become familiar with certain basic principles in aseptic and atraumatic surgery and in isolation technique. The *junior* students, during their surgical quarter, attend ward rounds in surgery and the surgical specialties, act as clinical clerks on the wards and assist in the operative treatment of patients assigned to them. The surgical students in the *senior* year attend ward rounds in general surgery and the surgical specialties in the mornings and assist in the surgical out-patient clinics in the afternoon. Also in groups of two for the proportionate time available they are assigned to the emergency division of the out-patient clinic where they assist in the diagnosis and care of urgent conditions.

Otolaryngological Division. An introductory course of instruction in the use of otolaryngological instruments, with a review of normal anatomy, is given to second-year students in the sixth quarter. Clinics

during all quarters of the year are given to junior students; students during their surgical quarter work in the otolaryngological out-patient clinic as assigned. Ward rounds are held separately each week for third- and fourth-year students. Patients are assigned to junior students during the surgical quarter.

Ophthalmological Division. During the sixth quarter second-year students receive instruction in elementary ophthalmology. During the junior surgical quarter the students may elect to work in the ophthalmological out-patient clinic as assigned, and assist in the study and treatment of eye diseases. Especial emphasis is placed on the underlying medical and surgical conditions. Each student follows throughout his time in the out-patient clinic all patients assigned to him. For those who manifest an unusual interest in this specialty, provision will be made for more advanced work. Throughout the junior surgical quarter the students attend ophthalmological ward rounds for two hours each week. During either their third or fourth academic year clinics covering the more general neuro-ophthalmological and medical problems are given.

Orthopaedic Division. In the sixth quarter an introductory course is given. During the surgical quarters the junior and senior students attend weekly ward rounds of one hour each in orthopaedics and fractures. Students in their senior surgical quarter are assigned in rotation to the orthopaedic out-patient clinic. These students also attend orthopaedic staff rounds at 5:30 P.M. Mondays through Fridays. An elective course in the treatment of fractures, limited to three students, is offered during the junior and senior surgical quarters. An elective course in physical therapy is also offered during these quarters. Arrangements may be made for students who so desire to do research or experimental work. They may also attend the state orthopaedic clinics as held.

Urologic Division. In the sixth quarter, second-year students are given a course of lectures and practical demonstrations in urologic physical diagnosis in the normal individual. Ward rounds on urologic patients are given every Saturday at 8:30 A.M. for third- and fourth-year students in their surgical quarter. Small groups are selected from the senior surgical group of students and assigned in rotation to the urologic out-patient clinic. During one quarter of the year, urologic clinics are given weekly for the junior and senior classes. These clinics deal with the affections of the male and female urinary tract and of the male genital tract. Clinics for urethroscopic and cystoscopic investigation and for the more technical methods of urologic diagnosis and treatment are held Monday, Wednesday, and Thursday from 1:30 to 5:00 P.M. and Tuesdays and Thursdays from 9:30 A.M. to 12:30 P.M. throughout the year. X-ray conferences on all urologic cases

are held Tuesday, Thursday, and Saturday mornings from 8:30 to 10:00 and are followed by staff rounds. Three senior students may select one of these cystoscopic clinics, x-ray conferences, and staff rounds as an elective. *The Urologic Journal Club* meets each week, and members of the staff review their respectively assigned journals. Interested students are welcome. Urologic pathology conferences are held twice a month throughout the year with the cooperation of the Pathology Department.

Division of Plastic, Maxillofacial, and Oral Surgery. Didactic lectures are given to both the third- and fourth-year students to familiarize them with the basic principles of plastic, reconstructive, and destructive procedures. Bedside ward rounds and demonstrations are held twice weekly to illustrate these basic phenomena of trauma, disease, and reconstruction. Fourth-year students work in the Plastic Surgical Clinic which meets daily, with special reference on Wednesday which is the Plastic Surgical and Oncology return or follow-up day. Opportunity is afforded interested students to observe moulage and cast work, cosmetic restoration of color, the making of prosthetic appliances, etc. The Oral Surgical Clinic has three dentists and oral surgeons in attendance and is in operation five and one-half days each week. Associated closely and allied with the plastic surgical service, is the Medical Speech Pathologist and Audiologist, who has charge of the Speech Correction Program.

The Division of Medical Speech Pathology will work in close cooperation with the Division of Plastic and Oral Surgery, the Division of Otolaryngology, and the Departments of Pediatrics and Psychiatry. Weekly lectures are given to familiarize students with the various types of speech defects and abnormalities which are encountered in both children and adults. The pre- and postoperative followup cleft palate patients are seen and evaluated each Wednesday afternoon in conjunction with the Plastic Surgical Clinic. Clinics will be arranged as desired with other departments. Speech instruction and therapy are given daily by appointment.

Neurosurgical Division. During all four quarters, separate weekly ward rounds are held for the junior and senior surgical groups. Emphasis in these rounds is placed upon the recognition of neurosurgical problems, followed by observation of the operative and post-operative procedures. Weekly x-ray and pathological conferences are held, and these may be attended by interested individuals. Tumor clinic conferences are held bi-monthly, on each second and third Thursday of the month.

Division of Thoracic Surgery. During the academic year ward rounds, lectures and demonstrations are held to acquaint the third- and fourth-year students with the principles and practice of surgery

of the chest. The anatomy and physiology of the respiration and circulation are reviewed and their application to thoracic surgery is stressed. X-ray diagnosis is emphasized and frequent pathology conferences are held to give the students a well-rounded knowledge of the surgical diseases of the chest.

Dentistry. Second-year students, in the sixth quarter, are instructed in the principles of dentistry.

Division of Anesthesiology. Junior and senior students, are given a series of lectures by the medical anesthesiologists in the Amphitheatre during the surgical lecture hour. Following a brief history of anesthetic drugs, the response of the body to such drugs is discussed. The physiological basis of the reactions encountered in the operating room is stressed and the rational for choice of agents for various patients is presented. A six days' concentrated course of training in the administration of anesthetic agents is given to each senior medical student during the senior surgical quarter. These students observe and administer anesthetics under the supervision of staff anesthetists.

Legal Medicine Toxicology

This course embraces a discussion of the relation of physicians to legal criminal procedures, jurisdiction of the coroner and medical examiner, laws governing the dead human body, personal identity of the living, and the dead, the medicolegal autopsy, traumatic, injuries and fractures, rape, abortion, asphyxial death, homicidal, suicidal, and industrial poisoning, alcoholism, the examination of blood, stains, fibers, and the detection of malingering. This course is open to junior and senior students and is given in alternate years. Discussions of medicolegal problems for the house staff and senior students, and joint conferences of the medical and law students also are held.

Undergraduate Cancer Training Program

(Supported by a grant in aid from the U. S. Public Health Service)

During the first quarter, a course in surgical pathology is available to interested senior students. Classes are held twice weekly; each class is two hours. The sessions are informal. Gross and microscopic materials with clinical abstracts are readily available. Clinico-pathological correlation is stressed throughout the course.

During the second and third quarters, weekly seminars are held on various phases of the tumor problem. Clinico-pathological correlation is stressed as the viewpoints of the clinician, radiologist, and pathologist are presented. General practitioners, members of the clergy, the social service division, and nursing staff are invited to discuss certain aspects in the care of patients with neoplasms.

Duke Hospital

Internships and Residencies

Straight internships of one year duration are available in Medicine, Surgery, Obstetrics-Gynecology, Pediatrics, Psychiatry and Pathology. Mixed internships are available in Obstetrics and Pediatrics. A stipend of \$25 per month is offered in Medicine, Surgery and Pediatrics plus room, board, laundry and uniforms. An allowance of \$12.50 is paid to married house officers in lieu of a room in the house staff quarters. Appointments are from July 1 through June 30, although special arrangements can be made with individual department heads.

Assistant Residencies and Residencies are available in the following services: internal medicine (allergy, cardiovascular diseases, dermatology-syphilology, gastroenterology, neurology, and pulmonary diseases), surgery-general (neurology-surgery, ophthalmology, otolaryngology, orthopedic surgery, plastic surgery, thoracic surgery, urology, oral surgery) pediatrics (pediatrics and obstetrics), obstetrics and gynecology (endocrinology), psychiatry, anesthesia, pathology, and radiology.

Application forms for all internships may be obtained by writing to the Superintendent, Duke Hospital, Durham, North Carolina. Graduates of any Class A medical school are eligible for internships. Appointments are open to women and to graduates of accredited foreign medical schools. Duke Hospital participates in the National Intern Matching Program, Inc.

After completion of an internship in Duke Hospital or in another acceptable hospital, a certain number may be appointed as assistant residents in the above listed specialties plus Biochemistry, the Student Health Service or as fellows of the Private Diagnostic Clinics at a salary of \$250 to \$800 per year plus maintenance. A smaller number may be eventually promoted to the residency in the above listed services at an annual salary of \$500 to \$1300 per year plus maintenance. Application should be made to the head of the department concerned.

The Hospital and School of Medicine are an integral part of the Duke University campus, and its educational, recreational and athletic facilities are available for the Resident Staff.

The Veteran's Hospital opened on April 6, 1953 and located within walking distance of Duke Hospital, is integrated with the Duke Hos-

pital house staff training program. House officers on certain services may be assigned to either hospital for parts of a year. Administratively, the hospitals are separate but educationally they are closely integrated. The Medical Staff of the Veteran's Hospital is supervised by a Dean's Committee composed of faculty members of the Duke School of Medicine. Certification of training is provided by Duke Hospital.

In addition, the Undergraduate Cancer Training Program staff participates in the teaching of neoplasia to the sophomore students. This is done as a supplementary program to the students as they are being taught the principles of neoplastic disease by the Department of Pathology. New material is presented to them, and here the clinico-pathological approach to the problem of neoplasia has special emphasis. In this phase of the program those regions of the body in which the frequency of tumors is highest are selected for study.

The Program, through its secretarial and social service personnel and its follow-up studies, is a valuable adjunct in the clinical training of the students. Contact is maintained with discharged patients and regularly scheduled appointments are made for their return visits to the various outpatient departments for periodic evaluation and indicated therapy. The program maintains an active tumor registry and, through the secretarial staff, this information is made available for study of particular phases of the tumor program.

A special feature of this teaching activity is the individual student project program. Twenty tumor study projects are planned for volunteer students, each project dealing with a particular problem in neoplasia. These projects are undertaken by students entering their third undergraduate year and continue through the fourth undergraduate year. This program is under the direction of the Coordinator, each student being guided in the accomplishment of his project by a member of the clinical staff who serves as his personal tutor.

Postgraduate Study

Graduates in medicine are welcomed at the various clinics and demonstrations in medicine, surgery, obstetrics, and other specialties, which are held from 9:30 A.M. to 12:30 P.M. each Saturday, as well as at the daily ward-rounds in the mornings, and the out-patient clinics in the afternoons. They can start at any time and remain as long as they wish. Additional special work in any department for a period of not less than three months may be arranged by consultation with the head of the department concerned. A certain number of residencies also are available at Duke Hospital in medicine, surgery, obstetrics and gynecology, pediatrics, psychiatry, neurology, derma-

tology, orthopaedics, urology, otolaryngology, ophthalmology, roentgenology, pathology, and biochemistry. Further information can be obtained by writing to the Dean.

Returning veterans are requested to register on arrival at the Dean's office, and with Mr. Oscar Petty, Jr., 102A Allen Building, who will assist them in applying for Veteran's benefits.

Durham Veterans Administration Hospital



A 485-bed general medical and surgical Veterans Administration Hospital is located contiguous to the Duke Campus and is operated under the supervision of the above Dean's Committee from Duke University School of Medicine. The full-time professional staff of the Veterans Hospital are all members of the Duke faculty. Residency programs are conducted in Medicine, Neurology, General Surgery, Anesthesiology, Neurosurgery, Ophthalmology and Otolaryngology, Orthopaedics, Plastic Surgery, Urology, Pathology, Psychiatry, Radiology, and Oral Surgery—all closely integrated with corresponding programs at Duke Hospital. The Veterans Hospital, as affiliated with Duke Hospital, is accredited for residency training in all of the above specialties. A straight medical internship is also provided at the Veterans Hospital; this again is integrated with the medical internship at Duke Hospital. Inquiries and applications for residencies and the medical internship should be made to the above listed staff members. Clinical and Research Fellowships are also offered in the various specialties.

Paramedical Courses at Duke Hospital

Hospital Administration

Eight internships in hospital administration leading to a certificate are available to university graduates whose character, tact, and ability for leadership are good, and whose academic standing is high. These internships are of two years' duration and pay a small salary in addition to room, board, and laundry. Vacations of two weeks are allowed during each year of internship.

The instruction is practical rather than theoretical in emphasis. The interns are rotated through seven different assistant administrative positions in the Hospital. There is also a weekly seminar lasting two hours and two classes lasting one hour each during the week.

The interns may register in the Graduate School of Duke University, and receive the A.M. degree after the successful completion of a thesis and twenty-four semester hours of university courses in various fields. This additional work will add one year to the program. Further information may be obtained by writing to the Superintendent, Duke Hospital, Durham, N. C.

Nursing

School of Nursing. Two programs are offered in the undergraduate school of nursing, one leading to a diploma after three years of study and the other leading to a B.S. in Nursing after four years of study. Further information concerning the School of Nursing may be obtained by writing to the Dean of the School of Nursing, Hanes House, Duke University, Durham, North Carolina.

Practical Nursing Division of the Vocational Education Department of the Durham City Schools, Duke Unit. After three months of classroom instruction at the Hillside High School, nine months are spent in classes and practical training at Duke Hospital. At the completion of this course, the student receives a certificate in practical nursing and is eligible for licensure as a practical nurse in North Carolina.

Nurse Anesthesia

Courses available to graduate nurses include an eighteen months' course for nurses who have had no experience in anesthesia, and a nine to twelve months' course for nurses who have had five years of practical experience but no formal training in the specialty. Instruction embraces the theoretical aspects and clinical application of all drugs and techniques in accepted usage. The program is divided into quarters. The major part of the basic theoretical instruction is given during the first three quarters. After a pre-clinical period of eight weeks, clinical practice runs parallel with the theoretical program. One class is accepted annually and enrolled on January 15. All appointments for the current year are made by September 1 of the preceding year. Graduates of these courses are eligible to take the examination given by the American Association of Nurse Anesthetists. Tuition is \$150.00 and \$100.00 respectively. Additional information concerning these programs for nurses may be obtained from Mary B. Campbell, R.N., Box 3094, Duke Hospital, Durham, North Carolina.

X-Ray Technology

The course in x-ray technology includes training in radiographic and x-ray therapy technic. The curriculum has been planned with the thought of giving the student x-ray technician a basic knowledge of the principles involved along with an introduction to the technical aspects of radiography. Applicants for training in x-ray technology should satisfy one of the following requirements: two years of college, graduate nurse, or special student without either of these requirements who might be appointed by the committee on admissions. The course is of twelve months' duration and the following subjects are presented: Anatomy and Physiology, General and Radiographic physics, Processing and Chemistry of x-ray film and Solutions, Fundamentals of Exposure Factors, Medical Terminology, Standard and Special Positions in Radiography, X-Ray Protection and Apparatus Maintenance. The tuition fee is \$25.00 payable on admission. Other student activity fees are optional. The University educational, recreational and athletic facilities are available to the students. Students are admitted on October 1 each year. Applications should be filed by July 1st. No maintenance is provided, therefore students live in town at their own expense. A certificate is awarded to those who successfully complete the course. The course is approved by the Council on Medical Education, American Medical Association, American College of Radiology, American Registry of X-Ray Technicians and The American Society of X-Ray Technicians. For further information, write: Professor of Radiology, Duke Hospital, Durham, N. C.

Medical Technology

The course in laboratory technique, which includes training in blood chemistry, clinical microscopy, bacteriology, serology, basal metabolism, etc., is approved by the Board of Schools of Medical Technology of the American Society of Clinical Pathologists. The course lasts twenty-one months, the next class beginning September, 1955. The registration fee is \$300 which includes tuition, student health and diploma fee for the entire course. There are no additional fees except for breakage. Other student activity fees are optional. The students live in town at their own expense. A minimum of two years of approved college work is required. The degree of B.S. in Medical Technology is awarded upon successful completion of the course. Information as to the specific requirements may be obtained from Dr. Haywood M. Taylor, Duke Hospital, Durham, North Carolina.

Physical Therapy

A fifteen months' course in physical therapy is offered for men and women graduates of accredited colleges, and for selected applicants who have completed ninety college semester hours, including credit in the biological sciences, physics, chemistry and psychology. The curriculum provides instruction in anatomy, physiology, kinesiology, pathology, psychology, electrotherapy, neuropsychiatry, therapeutic exercise and the principles of rehabilitation. Instruction in the clinical subjects is given by members of the faculty of the School of Medicine. Clinical training will be given at Duke Hospital and affiliated institutions and includes supervision of orthopaedic problems in the Durham Public Schools. The course starts in October. The tuition fee is \$350 plus \$35 for medical fee, and does not include maintenance. A certificate is awarded upon successful completion of the course. Twenty hours of credit may be earned toward the baccalaureate degree.

In addition to the above, a six months' course in the Psychosomatic Aspects of Physical Therapy is given to registered graduate physical therapists. The course includes a study of personality structure, adjustment, tensions, anxiety and their relation to patient behavior and management. The tuition fee is \$150.00. A certificate is awarded. Courses are given to the students of the Schools of Medicine and Nursing. Further information and application blanks may be obtained from the Division of Physical Therapy, Duke Hospital, Durham, N. C.

Occupational Therapy

Occupational Therapy in the form of creative, manual, educational and recreational activities is offered to patients upon referral by their

physicians. These activities are adapted to the specific remedial need of the individual patient. The division serves as a clinical training center for students from Occupational Therapy Schools.

Dietetics

In addition to the dietetic training of the students of the Schools of Medicine and Nursing, fourteen dietetic interns may be admitted to the School of Dietetics and given the certificate of graduate dietitian after the successful completion of one year's internship. The entrance requirements are a Bachelor's degree from an approved university or college, with majors in nutrition and institutional management, and the courses in chemistry, biology, social science, and education recommended by the American Dietetic Association. The course for dietetic interns provides instruction in all phases of hospital and institutional dietetics, including experience from the buying and storage of food to its service to the patients according to the physician's orders. Interns may apply some of their time in securing graduate credit.

The course starts the first of September. All students pay a registration fee of \$10 at the time of appointments. Additional fees are charged if the intern takes additional work in the University for an advanced credit. Maintenance is provided. More detailed information and application blanks may be obtained from the Professor of Dietetics, Duke University School of Dietetics, Durham, N. C.

Social Service

Medical and psychiatric social casework service is offered to patients referred by personnel within the Hospital, and by interested individuals and health and welfare agencies outside of the Hospital. Consultation regarding problems presented are available to the members of the Staff and referring agencies.

The division also assists in teaching social and environmental aspects of illness and medical care through consultations and lectures to the students of the Schools of Medicine and Nursing. In addition, it serves as an agency for supervised field work for students of the Graduate School of Social Work of the University of North Carolina and Atlanta University School of Social Work. Further information concerning training for advanced students may be obtained from the Social Service Division, Duke Hospital, Durham, North Carolina.

Medical Record Library

A twelve months' course for the training of medical record librarians which has been given full approval of the American Association

of Medical Record Librarians and the American Medical Association, includes three months of classes and nine months of internship with rotation through inter- and extra-departmental stations. Applicants are judged individually for eligibility, and education, training, and experience are all taken into consideration. The curriculum provides instruction in the theory of medical record library science, and an introduction to anatomy, physiology, pathology, medical and operative terminology, and medical diction. Instruction is given by members of the faculty of the School of Medicine, with special lectures on hospital management and correlation of various hospital departments, as well as seminars on legal aspects and administrative uses of medical case records. Internship includes application of class work in actual practice and covers all phases of medical record library work. The course starts in October. The tuition fee is \$175.00 and does not include maintenance. A certificate is awarded upon successful completion of the course. Applications may be made to the Medical Record Librarian, Box 3307, Duke Hospital, Durham, N. C.

Medical Art and Illustration

The function of this Division is to produce, for staff members allied to medicine, visual aids by way of various art and photographic methods. These visual aids are used to enhance the medical records and to aid in research and education. Services offered by this Division are: 1. Medical Art: Illustrations, by means of various artistic techniques, depicting anything perceptible to the eye, the existing but unseen and even the theoretical, as well as mechanical drawings, diagram, charts, graphs, lettering, casts, models, exhibits, etc. 2. Medical Photography: Illustrations of anything to which available photographic equipment will respond. This Division produces still and motion pictures, microphotographs, pictures of the retinae, photographic copies, film strips, lantern slides, enlargements and contact prints. Services offered directly for the patient's benefit are: Production of various types of anatomical prostheses and instruction in the use of opaque cosmetics. Facilities for individual training in specific techniques or methods employed by this Division are available. No academic credit is given. Prerequisites, tuition, time and type of training are determined by the Chairman of this Division. No regular courses of instruction in medical art and photography or their allied fields are offered.

THE SCHOOL OF NURSING

Fall Semester begins September 22, 1955

General Information



Programs

THE School of Nursing offers two programs; a three-year program leading to a diploma in Nursing and a four-year program leading to the degree of Bachelor of Science in Nursing. Graduates from these programs are eligible to take the State Board Examination for the title of Registered Nurse. The Division of Nursing Education of Duke University offers to graduate nurses a program leading to the degree of Bachelor of Science in Nursing Education. This division is closely associated with the School of Nursing and the program is described in this bulletin, but admission is through the Woman's College.

The courses leading to the diploma are designed to provide an educational program enabling the students to develop skills, knowledge, and attitudes needed for nursing service in hospitals and homes. Included in the program are experiences in the classroom, in the laboratory, and in Duke Hospital. Students in this program participate in general campus activities and share with other undergraduates opportunities for personal development. Students who wish to work toward the diploma in Nursing must apply for admission to the School of Nursing of Duke University.

Students in the program leading to the degree of Bachelor of Science in Nursing have the opportunity to secure a background of knowledge and appreciation as well as skills and attitudes which aid them in interpreting their experiences in nursing. Included in this program are classroom and laboratory experiences with the students in the colleges and clinical experience in nursing with the students and personnel in Duke Hospital and other community agencies. Students in this program are prepared for first level positions in nursing. Graduate nurses are not admitted to this program. Students who wish to work toward the degree of Bachelor of Science in Nursing apply for admission to the School of Nursing of Duke University.

The program leading to the degree of Bachelor of Science in Nursing Education is planned for nurses holding a diploma in Nursing who wish to prepare themselves as teachers in schools of nursing or administrators in nursing service. Students who wish to work toward the degree of Bachelor of Science in Nursing Education must apply for admission to the Woman's College of Duke University.

History

The School of Nursing of Duke University was established in 1931 in association with the School of Medicine of the University and Duke Hospital through the gift of the late James B. Duke. The School of Nursing is a member of the Committee on Health Affairs which promotes the common interests of the Medical School, School of Nursing, and Duke Hospital. A curriculum Committee, appointed by the President with representation from the administration of the University, the undergraduate colleges, the Medical School and the School of Nursing supervises the curriculum of the School of Nursing.

Facilities

The facilities for instruction include the facilities available in the undergraduate, professional, and graduate schools and colleges of Duke University and the clinical facilities of Duke Hospital and of the North Carolina Cerebral Palsy Hospital. The facilities of the Veterans Hospital in Durham may be made available at some future time.

In a wing of Hanes House are located the administrative offices of the School of Nursing, a large classroom seating 100 people and equipped with audio-visual aids, a small classroom seating 50 people and equipped with a screen and movie projector, a nursing arts laboratory with equipment for nursing practice for sixteen students, a conference room for faculty committees, small discussion groups and student council meetings. The School of Nursing also uses the laboratories of the Medical School for courses in science and classrooms in the hospital for clinical nursing courses.

A reference library of 2,298 books and periodicals of special interest to students majoring in nursing is located in Hanes House. Students may use the general libraries on the East and West Campuses and the Duke Hospital Library. A collection of visual aids including films is being assembled with an index in the library for the use of students and instructors in the School of Nursing.

Duke Hospital has every modern convenience for the diagnosis, proper nursing care, welfare and comfort of the patients including 562 hospital beds, 30 bassinets, a large public out-patient department, a large private diagnostic clinic and offices and examining rooms for the doctors who serve on the staff of the hospital. There are very close relationships established between the hospital and the Health Departments in North Carolina. A system for referral of patients to the nursing service of the Health Departments has been established between the supervisors of the nursing service in the hospital and the nursing service of the Health Department.

The beds in Duke Hospital are assigned to the various services as follows: Medicine, including dermatology and neurology, has 155 beds; surgery, including urology, otolaryngology, ophthalmology, and orthopaedics, 257; obstetrics, 37; and 30 bassinets; neuropsychiatry 30; and pediatrics, 83. There are 209 private rooms and semiprivate cubicles included in the figures above; 12 air-conditioned operating rooms, 2 obstetric delivery rooms. Except for emergencies, all patients are admitted to the hospital from either the out-patient clinic or the private diagnostic clinic.

The hospital has been approved for internships and residencies by the Council on Medical Education and Hospitals of the American Medical Association.

The out-patient department has an average of 344 visits per day. All services including psychiatry carry on an active program in the out-patient departments. Students are assigned to the out-patient department during their program in the School of Nursing. The first assignment is in the first year, to give the student some knowledge of the background of her patients; subsequent assignments are planned concurrently with the experience on each service.

The Summer Session

The programs in the School of Nursing include courses in the Summer Session each year. Students in the School of Nursing have their courses approved in the School of Nursing and pre-register with the Summer Session office. Students from other colleges and universities who are admitted to the School of Nursing with advanced standing are expected to enroll in the Summer Session to make up deficiencies. Arrangements for registration are made through the office of the Dean of the School of Nursing.

The Summer Session of 1955, will include two six-week terms: Term I, June 14 to July 23; Term II, July 26 to August 31. By attending both terms it is possible for a student to earn as many as twelve semester hours of credit.

While the basic purpose of the Summer Session is to serve the academic and the professional requirements of those who are interested in their own educational advancement, the University recognizes the need of, and provides for, a varied recreation program both athletic and social.

University fees are charged at the rate of \$12 per semester hour for those admitted with advanced standing. Board at Duke Hospital is \$10.00 per week per person, room is \$4.50 per week for each occupant of a double room, and laundry is .50 a week. A bill will be sent to all pre-registered students to permit payment in advance.

Awards

THE FLORENCE NIGHTINGALE PLAQUE: The Florence Nightingale plaque is awarded to a graduating student by the Alumnae Association for leadership, scholarship and nursing skill.

THE MOSELEY AWARD: The Moseley Award of \$25.00 is given to the student in the senior class who has shown the most skill in Nursing Arts throughout her program in the School of Nursing.

Santa Filomena

Santa Filomena, the Senior Honorary of the Duke University School of Nursing, was organized in April, 1944, under the sponsorship of the 1943 class. The purpose of this organization is to recognize achievement and promote leadership.

The members are chosen from the rising Senior Class and are publicly tapped by the old members at the first meeting of the SGA in their senior year, the number chosen not exceeding nine or being less than five. Each candidate must show recognized qualities of leadership or must have made some contribution toward the betterment of the School of Nursing. She must have demonstrated superior nursing abilities and her scholastic record must be C or above throughout her first two years.

Santa Filomena strives for better interclass relations, and to promote better nursing and higher nursing standards. The specific objectives are chosen by the members each year. All proceedings of the meetings of this organization are held in secrecy as are all ceremonies except the public tapping of the new members. The Santa Filomena's flower is the white lily and the members wear a small gold Florence Nightingale lamp.

Alumnae Association

The Alumnae Association was formed for the purpose of rendering mutual help and improvement in professional work, and for the promotion of good fellowship among the graduates of the School.

The Alumnae Association co-operates with the North Carolina State Nurses' Association and the American Nurses' Association in working for the professional and educational advancement of nursing.

Alumnae Notes, a quarterly news publication, furnishes items of interest to the members of the Association.

Admission



Application for Admission

APPLICATIONS for admission to the School of Nursing should be made to the Committee on Admissions of the School of Nursing, Hanes House, Duke University, Durham, N. C. Application forms will be sent on request.

Admission

Applicants may qualify for admission to one of the two programs in the School of Nursing as members of the Freshman Class or as students with advanced standing. Since the profession of nursing requires women with a high sense of integrity and responsibility, with culture and intelligence, whose predominant interest is service, the Admissions Committee will select the applicants who, in its opinion, seem best qualified for nursing. The Admissions Committee must have on file the records indicating the fulfillment of the following requirements before considering an applicant.

1. Graduation from high school with sixteen units of credit as indicated.
2. Aptitude and achievement tests.
3. Three recommendations.
4. Interviews.
5. Physical and dental examination.
6. Transcript of college courses for those who have attended college.

Specific Requirements

I. All applicants for admission to the School of Nursing must present at least sixteen acceptable units of secondary school credit. A unit of credit is allowed for a course of study pursued throughout an academic year at an accredited secondary school; if the course has been completed satisfactorily.

1. Twelve units must be in English, foreign language, history and social studies, mathematics, and natural science; and must include:
 - (a) English—3 units.
 - (b) Algebra—1 unit.
 - (c) Plane geometry—1 unit.

2. The four remaining units are elective and may be selected from those subjects for which the school allows credit toward graduation; but it is recommended that they also be selected from the five subject fields listed above.

Other units offered in subjects not included in this list will be considered for acceptance on the basis of full statements transmitted with the applicant's record from the school recommending her.

II. Satisfactory scores on a battery of aptitude and achievement tests.

III. Three recommendations, two of which must come from recent high school or college instructors.

IV. Interviews with two members of the Duke University School of Nursing faculty, whenever possible.

V. Records of recent physical and dental examination.

A complete physical examination is given at Duke Hospital during the Orientation Period and required before final acceptance is made to the school. The examination also includes a chest X-ray, blood and urine studies and skin tests.

ADMISSION TO ADVANCED STANDING IN THE SCHOOL OF NURSING: An applicant for advanced standing must have fulfilled the equivalent of the requirements for admission to the Freshman Class, must present official certificates of all work completed in other institutions, and must have an honorable dismissal from each institution previously attended. Credit for work completed will be determined in relation to the curriculum requirements of the School of Nursing. Applicants admitted to advanced standing may make up deficiencies for admission to the second year by attending the Summer Session.

Applicants for advanced standing in the School of Nursing should present, as far as possible, subjects corresponding to those required by the School. They may not, during their first semester, register for more than the minimum number of hours required of the class which they enter, except by permission of the Dean of the School of Nursing.

Transfer credits are tentatively evaluated pending the completion of two semesters of work in residence. To validate provisional credits the student must earn at least an average of C in a normal load of work. Transfer grades of C or above are rated at one quality point per credit hour when validated. Credits with grades of D are not acceptable.

The maximum amount of credit acceptable from a junior college is 60 semester hours, exclusive of physical education. No credit is given for work completed by correspondence, and credit for no more than six semester hours is allowed for extension courses. Any extension work accepted must be approved through the dean.

Financial Information and Living Accommodations



FEES paid by students and nursing services of the students to the hospital cover only a part of the cost of their instruction and maintenance and the operation of the University. Income from endowment and contributions from alumni, alumnae, and other public-spirited men and women meet the balance.

Fees and Estimated Expenses—Diploma Program

A registration fee of \$20.00 is required of all new students. This fee is payable only once; it is not refundable. The general fee is in lieu of special fees usually charged for matriculation, use of laboratories, student health service, commencement, etc.

One half of the first year tuition fee and general fee is payable on admission, and the balance in equal payments at the beginning of the fall and spring semesters. Tuition and general fees for the subsequent years is payable in equal payments at the beginning of the fall and spring semesters. An activities fee of \$15.00 is charged each year. Payment of uniforms is made directly to the uniform company. Each student is responsible for payment of necessary replacements.

	<i>Summer Session 12 Weeks</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>
Tuition		\$100.00	\$100.00	\$100.00
*General Fee		25.00	25.00	25.00
†Room	\$ 63.00			
†Board	120.00			
†Laundry	6.00			
Books		40.00	10.00	10.00
Activities		15.00	15.00	15.00
Uniforms	71.55			13.70
Room Key Deposit ...	1.00			
	<u>\$261.55</u>	<u>\$180.00</u>	<u>\$150.00</u>	<u>\$163.70</u>

A student will not attend classes unless she has complied with all regulations concerning registration and payment of charges for a term.

After the first Summer Session, Duke Hospital provides board, room and laundry for students in the School of Nursing in return for

* This fee becomes effective September, 1955.

† These charges become effective June, 1956.

nursing service which the student contributes during her assignments in the hospital.

Students may have bills sent to parents or guardians provided the Treasurer has been notified in writing with sufficient antecedence. Failure of a student or of a parent or guardian to pay bills on the dates scheduled will debar the student from class attendance until her account is settled in full; subsequent withdrawal does not entitle her to a refund. A student is not considered as a candidate for graduation unless she has settled with the Treasurer for all her indebtedness to the University. A student who has not settled all her bills with the Treasurer is not allowed to stand the final examinations of the specific term.

Refunds of tuition and other fees are made to students who withdraw within 14 days after the beginning of the semester. On and after the fifteenth day, all fees are considered as earned and no refunds are made.

Students are entitled to one transcript free of charge. Additional copies are supplied at \$1.00 each. Records are not released when the Treasurer's office reports an unpaid account.

Fees and Estimated Expenses—Degree Program

A registration fee of \$20.00 is required of all new students. This fee is payable only once; it is not refundable. The general fee is in lieu of special fees usually charged for matriculation, use of laboratories, student health service, commencement, etc. One-half of the tuition and general fees are payable at the beginning of each semester.

	Year First	Summer Session 6 Weeks	Second Year	Third Year	Fourth Year
Tuition	\$ 450.00		\$ 250.00	\$250.00	\$250.00
General Fee	150.00		75.00	75.00	75.00
Room Rent	210.00	\$ 31.50	210.00		
Board	400.00	60.00	400.00		
Laundry	20.00	3.00	20.00		
Books	40.00	10.00	40.00	40.00	10.00
Activities	15.00		15.00	15.00	15.00
Uniforms		71.55			13.70
Room Key Deposit	1.00				
	\$1,286.00	\$176.05	\$1,010.00	\$380.00	\$363.70

A student will not attend classes unless she has complied with all regulations concerning registration and payment of charges for the term.

Payment of uniforms is made directly to the uniform company. Each student is responsible for payment of necessary replacements. After the second year, Duke Hospital provides board, room and laun-

dry in return for nursing service which the student contributes during her assignment in the hospital.

Students may have their bills sent to parents or guardians provided the Treasurer has been notified in writing with sufficient antecedence. Failure of a student or of a parent or guardian to pay bills on the dates scheduled will debar the student from class attendance until her account is settled in full; subsequent withdrawal does not entitle her to a refund. A student is not considered as a candidate for graduation unless she has settled with the Treasurer for all her indebtedness to the University. A student who has not settled her bills with the Treasurer is not allowed to stand the final examinations of the specific term.

Refunds of tuition and other fees are made to students who withdraw within 14 days after the beginning of the semester. On and after the fifteenth day all fees are considered as earned and no refunds are made.

Students are entitled to one transcript free of charge. Additional copies are supplied at \$1.00 each. Records are not released when the Treasurer's Office reports an unpaid account.

Scholarships and Loans

SCHOLARSHIP AWARDS: A limited number of scholarships are awarded annually to students who evidence qualities which might predict excellence in Nursing.

LOANS: A number of loan funds have been established for the benefit of the students of Duke University. The most important and largest is the Angier B. Duke Memorial Student Loan Fund, which is administered through an advisory committee of officers of the University. The amount available to be loaned depends upon the income from investments and on the amount repaid on loans previously made to students. The same committee of officers administers the other endowed loan funds of the University.

The committee in approving loans selects those students who, from the standpoint of character, scholastic attainment, personality and degree of financial need, are deserving of consideration.

Residence

Students are housed in a fireproof residence located near the hospital. Rooms are adequately equipped with blankets and linen, making further provision by the student unnecessary. Life in the dormitory is under the regulations established by the Student Government Association with advice from the faculty. The dormitory, Hanes

House, is new and planned for comfortable living. A Student Handbook including dormitory regulations is issued to each student.

Students in the degree program pay for rooms in Hanes House during the first two years. During the academic year the rental charge for a single room is \$130.00 per semester. The rental charge for a double room is \$105.00 per semester. The charge for laundry for one semester is \$10.00. The rental charges for Summer Session are included under the description of that term on Page 16.

Board for these students may be secured at the hospital for \$200.00 for the semester. Students may prefer to eat at the University cafeterias with multiple choice menus. The cost for the academic year ranges from \$375.00 to \$500.00 depending on the taste of the individual. In the Men's Graduate Center near Hanes House is a cafeteria with multiple choice menus and a Coffee Lounge where sodas and sandwiches are served from 11:30 A.M. to 11:00 P.M. This is closed on Sunday.

Board, room and laundry is provided by Duke Hospital for students in the diploma program after the first Summer Session and for students in the degree program after the second year.

General Regulations



Orientation Program

ALL FRESHMEN and transfer students are required to participate in the Activities of Orientation Week. The program includes general ability, achievement, and placement tests, orientation lectures, physical examinations, social events, special religious services, registration, and enrollment.

The University considers the planning of a course of study to be of primary importance. With the results of the several tests which all freshmen take, courses are planned according to the ability, achievements, and goals of the individual student. New students who miss the whole or a part of the Orientation Program place themselves at a serious disadvantage at the very outset of their college career.

Health Regulations

The School has general supervision of the student's health. All physical defects, such as defective vision, dental needs, etc., must be corrected before admission to the School. The student must have been immunized against typhoid fever and vaccinated against smallpox during the current year. All students are required to pass a physical examination before final acceptance to the School of Nursing, and at intervals thereafter, a final examination being given at the end of the course. Students whose condition needs further observation may be admitted tentatively, but must cancel their application if later findings prove them physically unfit for nursing.

Students are allowed three weeks' sick leave during the three years of clinical practice.

Health Program

With the exceptions noted below, full medical and surgical care is furnished to all regularly matriculated student nurses. It includes hospitalization in the Student Nurses Infirmary or in a private nursing unit according to the preference of the student or the seriousness of the illness. Medical and Surgical care, drugs, dressings, x-ray, laboratory, and staff but no private nursing is furnished without charge. Refraction of eyes, treatment of teeth and of all chronic and pre-existing condi-

tions, such as diseased tonsils, hernias, pilonidal cysts and other elective surgery, chronic skin conditions, endocrine disturbances, etc., and accidents or illnesses occurring during vacations or while off the campus, are not included in this service. The cost of any necessary braces and orthopaedic appliances, as well as of special nursing, must be borne by the student and blood used for transfusions must be paid for or replaced. If the student has insurance providing hospital, medical or surgical benefits, the benefits shall be applied to the cost of her medical care.

Advisory consultation with a Psychiatrist is available through the Dean of Nursing at no expense to the student but office visits for psychotherapeutic interviews cannot be included in this service.

First year students in the four year degree program are not furnished maintenance by the hospital and will be asked to pay for board while hospitalized. Insurance benefits, if any, will be used to cover this.

A nurses health office is maintained in the student nurses' dormitory for the purpose of treating ambulatory cases. Admissions to the hospital are arranged through this office.

Grading

Grades are reported so as to indicate one of four things:

(1) *Passed.* A, B, C, and D are all passing grades. The letters are intended to indicate the following quality of work: A, exceptional; B, superior; C, medium; D, passing.

(2) *Failed.* A grade of F indicates that the student has failed the course, and in order to receive credit for the course he must repeat the work in class.

(3) *Incomplete.* (a) A grade of I may be reported by the instructor if for any reason he is unable to report the final grade at the regular time. (b) Incomplete courses must be completed before the close of the succeeding semester; otherwise the I is recorded as F, and the course must be repeated in class if the student is to receive credit for it.

(4) *Absent from final examination.* (a) The grade X indicates that the student was absent from the regularly scheduled examination.

QUALITY CREDIT: The requirements for the degree are computed not only in semester hours but also in quality points. Quality points are earned by a student on the basis of her grades: for an A she receives three quality points for each semester hour; for a B, two quality points for each semester hour; for a C, one quality point for each semester hour; for a D, no quality points; for an F, a loss of one quality point for each semester hour. Credit for at least 125 quality points, exclusive of physical education, is required for the degree of Bachelor of Science in Nursing.

Readmission

Students who are absent for more than one month on account of illness or have leave of absence may be readmitted to the same or a succeeding class at the discretion of the faculty.

Leave of Absence

Students are not expected to leave the School because of family or other personal reasons. Absence from the School is granted only in extreme cases. If a student is obliged to be away for a period exceeding four weeks, her return must be approved by the Faculty of the School and the Dean of the School of Nursing will determine the date of her return and the question of resuming her place in her original class.

Dismissal

The faculty of the School of Nursing may, at any time, place a student on probation or release her from the School if, in its opinion, she does not have the qualifications necessary for the profession. A student of the freshman class to remain in the degree program must pass at least six semester hours of work in her first semester and eighteen semester hours in her first academic year.

Requirements of Programs in Nursing



Programs of the School of Nursing

THE School of Nursing offers two programs for students wishing to prepare for the profession of nursing. The diploma program covers a period of three calendar years with one month of vacation each year. At the completion of this program, the student receives the diploma in nursing and is then eligible for the examinations given by the North Carolina State Board of Nurse Examiners.

The program leading to the degree of B.S. in Nursing covers a period of four years; one academic year and one summer term and three calendar years. At the completion of this program, the student receives the degree of B.S. in Nursing and is then eligible for the examinations given by the North Carolina State Board of Nurse Examiners. The School is fully approved by the North Carolina Joint Committee on Standardization.

Program I Leading to a Diploma in Nursing

To fulfill the requirements for a diploma in Nursing a student must complete 67 semester hours as outlined below, and show proficiency in the practice of nursing.

FIRST YEAR

SUMMER SESSION

<i>First Term</i>	S.H.	<i>Second Term</i>	S.H.
Chemistry.....	3	Zoology.....	3
Orientation to the Health Field..	2	Introduction to Nursing.....	1
	<hr/> 5		<hr/> 4

ACADEMIC YEAR

<i>First Semester</i>	S.H.	<i>Second Semester</i>	S.H.
Anatomy & Physiology.....	6	Medical & Surgical Nursing....	3
Physiological Chemistry.....	3	Microbiology.....	3
Nutrition.....	3	Nursing Arts.....	3
Nursing Arts.....	3	Social Psychology.....	4
Medical-Surgical Nursing.....	3		
	<hr/> 18		<hr/> 13

SECOND YEAR

SUMMER SESSION

S.H.

Medical & Surgical Nursing 3

*ACADEMIC YEAR

<i>First Semester</i>	S.H.	<i>Second Semester</i>	S.H.
*Medical & Surgical Nursing including O. R. & Diet Therapy	4	*Obstetric Nursing	4
Child Development	3		4
	—		
	7		

THIRD YEAR

*SUMMER SESSION

S.H.

*Pediatric & Communicable Disease Nursing 4

†ACADEMIC YEAR

<i>First Semester</i>	S.H.	<i>Second Semester</i>	S.H.
†Psychiatric Nursing	4	†Advanced Medical & Surgical Nursing with Seminar on Nursing Problems	2
	—	Social Foundations of Nursing Education	3
	4		5

* Class divided into four sections and rotated on these four services.

† Class divided into two sections and rotated on the two services.

Description of Courses—Diploma Program

BIOLOGICAL AND PHYSICAL SCIENCE

ANATOMY AND PHYSIOLOGY.—The student gains an understanding and appreciation of the way body structure and body functions serve to maintain and promote health. These enable the student to practice and teach good hygiene and to comprehend anatomical and physiological pathology intelligently. Audio-visual aids are used extensively and in conjunction with laboratory work the anatomical structures are demonstrated on dissected human specimens and certain physiological principles are demonstrated. 6 s.h.

PROFESSOR MARKEE AND STAFF;
PROFESSOR F. G. HALL AND STAFF

CHEMISTRY.—A course in the fundamentals of general inorganic chemistry with particular emphasis on the needs of the student nurse. A brief introduction to organic chemistry. 3 s.h.

ASSOCIATE PROFESSOR TAYLOR

PHYSIOLOGICAL CHEMISTRY.—This course is designed to aid the student in understanding the chemical mechanisms of the human body both in health and in disease. The student also acquires knowledge concerning the chemical basis of diagnosis and therapy. 3 s.h.

ASSOCIATE PROFESSOR TAYLOR

MICROBIOLOGY.—From the learning experiences included in this course the student is enabled to understand and appreciate the role in the prevention of microbial disease. 3 s.h.

ASSISTANT PROFESSOR POPE

PHYSICAL EDUCATION.—First year students are required to elect either swimming or basketball.

ASSISTANT PROFESSOR W. S. PERSONS

ZOOLOGY.—A course in general zoology especially adapted for those preparing to enter the profession of nursing. During the course emphasis will be placed on the principles of zoology as they apply to a vertebrate animal; the frog will be used as the type animal.

ASSOCIATE PROFESSOR DUKE

SOCIAL SCIENCE

N2. INTRODUCTION TO NURSING.—Designed to give the student an appreciation of the historical development of some of the present concepts in nursing. 1 s.h.

ASSOCIATE PROFESSOR INGLES

SOCIAL PSYCHOLOGY.—Through a study of the role of social and cultural patterns in their interaction with the individual personality and through an understanding of behavior development and personality adjustment, it is hoped that the student may advance toward maximum personal, social and professional maturity. By exploration of social patterns she learns something of the structure of contemporary society. Through a study of the techniques used in understanding and getting along with others, the student becomes better able to use these techniques in her own contacts with people. 4 s.h.

ASSISTANT PROFESSOR KOCH

CHILD DEVELOPMENT.—A study of principles of human growth and development with special emphasis on the understanding of children's needs, learning and behavior at various levels of development. Importance of infancy and pre-school years in the development of the individual. Planned especially for nurses. Two lectures and one laboratory period. 3 s.h.

ASSISTANT PROFESSOR REICHENBERG-HACKETT

N160. SOCIAL FOUNDATIONS OF NURSING EDUCATION.—This course is designed to help the student consider the opportunities open to her, her special aptitudes and abilities, her responsibilities, the fields of work for which she presents potentially the best qualifications and how to get started in a professional career. She is helped to see the place of nursing in the social and economic world of today. Emphasis is placed on the need for cooperation between all professions if satisfactory conditions for the maintenance of health and the prevention of disease are to be realized. 3 s.h.

PROFESSOR JACOBANSKY

NURSING AND ALLIED ARTS

Nursing 92 includes 20 hours a week of correlated clinical experience. Nursing 93, 120, 130, 140, 170 and 190, include 34 hours a week of correlated clinical experience.

N1. ORIENTATION TO THE HEALTH FIELD.—An introduction to basic health needs of the community and the agencies and programs designed to meet them. 2 s.h.

ASSISTANT PROFESSOR MASSEY

N61-62. NURSING ARTS.—A study of the fundamentals of healthful living and their application to basic nursing care in the home and in the hospital. Considers the nursing needs of individual patients and provides opportunity to plan and give patient care. 6 s.h.

ASSISTANT PROFESSOR RAPPAPORT, MISS KNOWLES, AND STAFF

Nutr. 53. NORMAL NUTRITION AND DIETETICS.—This course considers the nutritive requirements for individuals in different stages of development, and in different occupations. The methods of supplying foods conforming to the individual nutritional needs are given for varying income levels. Actual foods are compared according to their contribution of specific nutrients, and in relation to their place in the daily diet. 3 s.h.

MISS EVANS

N92-93. MEDICAL AND SURGICAL NURSING.—A study of basic principles underlying nursing care of patients with common medical and surgical conditions. Pharmacology, nutrition in disease, and therapeutics are included. 9 s.h.

ASSOCIATE PROFESSOR INGLES AND STAFF; DR. HART AND STAFF; DR. STEAD AND STAFF

120. PEDIATRICS AND COMMUNICABLE DISEASE.—This course is designed to help the student understand children, their response to illness, and the therapy involved in their care so that she can assume her role in child health promotion. A developmental approach is used throughout the course with emphasis on the child as a member of the family. The acute communicable diseases of childhood are included.

MRS. CLARKE; DR. HARRIS AND STAFF

N130. OBSTETRIC NURSING.—Considers normal and abnormal phases of the reproductive cycle basic to nursing care of the mother and the newborn child including the premature infant; the effect of reproduction upon individual and family. 4 s.h. MISS J. WILSON, MISS DAVIS, AND MISS KIERNAN; DR. CARTER AND STAFF

N140. MEDICAL AND SURGICAL NURSING.—A continuation of Nursing 93. A discussion of principles of surgical aseptic technique basic to nursing practice in the operating room and practice in nutrition in disease is included in this course. 4 s.h. ASSOCIATE PROFESSOR INGLES AND STAFF; MISS CAMPBELL, MISS EVANS; DR. HART AND STAFF; DR. STEAD AND STAFF

N170. PSYCHIATRIC NURSING.—Discussion of the principles of psychiatric nursing and the functions and responsibilities of the nurse in the total care of the psychiatric patient with emphasis on mental hygiene and care and rehabilitation of the mentally ill. 4 s.h. ASSISTANT PROFESSOR ZUKOWSKI, PROFESSOR BUSSE AND STAFF

N190. ADVANCED MEDICAL AND SURGICAL NURSING.—Designed to clarify and broaden understanding of basic principles requisite for nursing care. Conference and seminars. 2 s.h. ASSOCIATE PROFESSOR INGLES

Program II Leading to a B.S. in Nursing

To fulfill the requirements for the degree of B.S. in Nursing, a student must complete 127 semester hours as outlined below, earn 127 quality points, and show proficiency in the practice of nursing.

The requirements for the degree of Bachelor of Science in Nursing are based on the principle that the student will derive the maximum benefit if the program includes a broad distribution of studies among representative fields.

For graduation with the degree of Bachelor of Science in Nursing, the following course work must be completed.

UNIFORM COURSE REQUIREMENTS	S.H.
English	6
Natural and Biological Science	23
Religion	6
Social Science and History	24
Elective (Literature, Music, Art Philosophy preferred)	6
Physical Education	2
Major (Nursing and related work).....	60
Total	127

These requirements are described in detail below.

ENGLISH, 6 s.h.—This requirement is met by the completion of English 1-2. Students who demonstrate proficiency in English usage may be allowed to substitute 55 or 56 for English 1.

NATURAL AND BIOLOGICAL SCIENCE, 23 s.h.—To satisfy this requirement a student must complete laboratory courses in General Chemistry (3 s.h.), Physiological Chemistry (3 s.h.), Zoology (8 s.h.), Anatomy and Physiology (6 s.h.), and Microbiology (3 s.h.).

RELIGION, 6 s.h.—To meet this requirement 6 semester hours must be chosen from Religion 1, 2, 51, 52, 91, 93, 94, 101, 103, 104, 114, 130, 132, 181, 182.

SOCIAL SCIENCE AND HISTORY, 24 s.h.—To satisfy this requirement students must take Education 88 and 118, Psychology 116 and Sociology 91, 92 and N151.

The remaining 6 s.h. may be selected from History 1-2 or 51-52 and Political Science 11-12 or 61-62 (Students who do not present for entrance 2 acceptable units of History must select History).

LITERATURE, MUSIC, ART, AND PHILOSOPHY, 6 s.h.—This requirement can be satisfied by a total of 6 semester hours in courses in English or American literature, foreign literature courses numbered above 100, literature courses in translation, courses in aesthetics, art, music, and courses in Philosophy (except 48, 103, 104, 109, 199).

PHYSICAL EDUCATION, 2 s.h.—In the School of Nursing, Physical Education is required during the first year and must be completed by the end of the first year.

MAJOR AND RELATED WORK, 60 s.h.—This requirement is met by completing courses in the School of Nursing in accordance with the regulations described.

The work is divided as follows:

FIRST YEAR

<i>First Semester</i>			S.H.	<i>Second Semester</i>			S.H.
Eng	1	Freshman Composition....	3	Eng	2	Freshman Composition....	3
*Hist	1	Historical Background of the World Today.....	3	*Hist	2	Historical Background of the World Today.....	3
*Pol Sc	11	The American System of Government.....	3	*Pol Sc	12	The American System of Government.....	3
Relig	1	The English Bible.....	3	Relig	2	The English Bible.....	3
N	1	Orientation to the Health Field.....	2	Micro	4	Microbiology.....	3
Zool	1	General Zoology.....	4	N	2	Introduction to Nursing...	1
		Physical Education.....	1	Zool	2	General Zoology.....	4
			16			Physical Education.....	1
							18

SUMMER SESSION (6 WEEKS)

First Term

		S.H.
Chem	50	Chemistry.....
Ed	88	Educational Psychology....
		6

SECOND YEAR

<i>First Semester</i>			S.H.	<i>Second Semester</i>			S.H.
Anat	51	Anatomy & Physiology....	6	N	92	Medical & Surgical Nursing.	3
Chem	51	Physiological Chemistry....	3	Nutr	53	Nutrition.....	3
N	91	Medical & Surgical Nursing	3	Ed	118	Educational Psychology— Developmental.....	3
N	61	Nursing Arts.....	3	N	62	Nursing Arts.....	3
Soc	91	General Sociology.....	3	Soc	92	General Sociology.....	3
			18				15

SUMMER SESSION

<i>First Term (6 weeks)</i>			S.H.	<i>Second Term (10 weeks)</i>			S.H.
Elective		Literature, Music, Art or Philosophy.....	3	N	95	Introduction to the Field of Social Work.....	3
N	93	Medical & Surgical Nursing (cont. through summer).....	3				
			6				3

THIRD YEAR

<i>First Semester</i>			S.H.	<i>Second Semester</i>			S.H.
N	120	Pediatric & Communicable Disease Nursing..	6	N	130	Obstetric Nursing.....	6
†Soc	N151	Family Relationships....	3	†Psych	116	Psychology of Adjustment.....	3
			<u>9</u>				<u>9</u>

SUMMER SESSION

	S.H.
N140 Medical & Surgical Nursing including O. R. & Diet Therapy.....	<u>6</u>
	6

FOURTH YEAR

<i>First Semester</i>			S.H.	<i>Second Semester</i>			S.H.
N	160	Social Foundations of Nursing Education.....	3	N	180	Aspects of Public Health Nursing	6
N	170	Psychiatric Nursing.....	6			Elective above 100 level.....	3
			<u>9</u>				<u>9</u>

SUMMER SESSION

	S.H.
N190 Advanced Medical & Surgical Nursing with Seminar on Nursing Problems.....	<u>3</u>
	3

In the junior year the class is divided into three sections and rotated in the three major nursing courses.

In the senior year the class is divided between Psychiatry and Advanced Medical and Surgical Nursing.

Description of Courses—Degree Program

UNDERGRADUATE COLLEGES

EDUCATION

88. EDUCATIONAL PSYCHOLOGY: LEARNING AND MEASUREMENT.—This course and Education 118 constitute a general introduction to the field of Educational Psychology. This course deals with (1) the psychology of learning, including: the nature of the learning process; general principles or laws of learning; the course of learning and forgetting; factors influencing efficiency in learning and retention; and the transfer of training; and (2) measurement, including: the basic concepts in the measurement of intelligence; standardized achievement tests; the extent and significance of individual differences in ability and performance. Opportunity will be afforded for examination and study of a variety of tests of intelligence and achievement. *Either semester. 3 s.h. (E)*

ASSOCIATE PROFESSORS EASLEY AND RUDISILL;
AND ASSISTANT PROFESSOR GEHMAN

118. EDUCATIONAL PSYCHOLOGY: PSYCHOLOGICAL DEVELOPMENT.—This course traces the psychological development of the individual from infancy to maturity. The principal topics considered are: the interdependence of hereditary and environmental factors in development, the nature of the development process, the establishment of the early basic patterns of behavior, changes and conditions producing these changes throughout childhood and adolescence to maturity, and

* Choice possible.

† One-half of class each semester.

the origin and treatment of minor behavior disorders. To the degree practicable, students will observe children in typical and atypical situations as a means of securing concrete data on the problems treated in the course. Not open to students who have had Psychology 121 or 126. Prerequisite: three semester hours in psychology or educational psychology. *Either semester.* 3 s.h. (E)

ASSOCIATE PROFESSOR EASLEY AND
ASSISTANT PROFESSOR GEHMAN

ENGLISH

L. ENGLISH FUNDAMENTALS.—All freshmen whose scores on the placement tests indicate that they are not ready for English 1 must take this course. Students who fail in English L must repeat the course. Students who have earned credit in English L must also take English 1 and 2. 3 s.h. (w)

ASSISTANT PROFESSOR JORDAN AND MR. NEWELL

1-2. ENGLISH COMPOSITION.—All freshmen are required to take course 1 and course 2.

Students who fail in English 1 or 2 must repeat the course in the following semester. Students in courses 1 and 2 who fail to make an average of "C" or better are strongly advised to earn credit for an additional course in English composition. 6 s.h. (E & W)

PROFESSORS BEVINGTON AND WARD; ASSOCIATE PROFESSORS BOWMAN, HARWELL, MITCHELL, PATTON, AND WHITE; ASSISTANT PROFESSORS BEVINGTON, BUDD, JORDAN, AND POTEAT; DRs. BOWERS, BROOKS, FRASER, KOTTLER, LANE, MAJOR, REICHARD, SMITH, AND WICKES; MISS LIBBY; MESSRS. HOLMES, KEIRCE, NEWELL, TEETS, AND WOODS

ENGLISH AND AMERICAN LITERATURE AND LANGUAGE

55, 56. REPRESENTATIVE WRITERS.—The following works are studied in the first semester: Chaucer's Prologue to *The Canterbury Tales* and at least two tales, Shakespeare's *1 Henry IV*, *King Lear*, and one other play, the English Bible (selections), Milton's *Paradise Lost* (selections) and some of the shorter poems; in the second semester: Pope's poems (selections), Fielding's *Joseph Andrews* or *Tom Jones*, selections from Keats's or Wordsworth's poems, selections from Browning's or Arnold's poems, Thackeray's *Vanity Fair* or Hardy's *The Mayor of Casterbridge*, selections from Yeats's poems, two plays by Shaw or a twentieth-century British or American novel. 6 s.h. (E & W)

PROFESSORS BEVINGTON, BLACKBURN, BOYCE, IRVING, SANDERS, AND TURNER;
ASSOCIATE PROFESSORS BOWMAN, MITCHELL, AND PATTON; ASSISTANT
PROFESSORS BEVINGTON AND POTEAT; DRs. BOWERS, FRASER,
KOTTLER, LANE, REICHARD, SMITH AND WICKES

HISTORY

1, 2. HISTORICAL BACKGROUND OF THE WORLD TODAY.—This course is an introduction to the study of modern history with special reference to the issues in the modern world. Topics selected for emphasis are: the contest between liberty and authority in the modern state; changing economic organization and theory—capitalism and the challenges to it; the problems of peace and war among the states; the changing faith men live and die by. Beginning about 1500 with the rise of the European dynastic states, the story is pursued in the first semester to approximately 1871, and in the second through the two great world wars. The central theme in both semesters is the expansion of the influence of Western Europe throughout the world, with some attention to the rise of the United States as a world power. 6 s.h. (W & E)

Sophomores and juniors are not admitted to this course. One semester of the course may be counted as a general elective but not as fulfilling the minimum uniform requirements or, except as provided above, as a basis of further work in history.

ASSOCIATE PROFESSORS FERGUSON, PARKER, AND ROPP; ASSISTANT
PROFESSORS ACOMB AND COLTON; DRs. DURDEN,
OLIVER, WHITESIDE, AND YOUNG

51, 52. HISTORICAL BACKGROUND OF THE WORLD TODAY.—An introductory course for sophomores, juniors, and seniors dealing with the topics indicated in the description of course 1-2. 6 s.h. (W & E)

PROFESSOR CURTISS; ASSOCIATE PROFESSOR ROPP; ASSISTANT PROFESSORS ACOMB AND COLTON; DRs. DURDEN, OLIVER, WHITESIDE AND YOUNG

PHILOSOPHY

49. ETHICS.—An introductory consideration of basic ethical concepts and principles as developed in European and American thought and culture. 3 s.h. (E & W)

PROFESSORS BAYLIS AND NEGLEY; ASSISTANT PROFESSORS BUCK AND WELSH

POLITICAL SCIENCE

11-12. THE AMERICAN SYSTEM OF GOVERNMENT.—An introductory study of the principles and operation of the American government in the light of the present world position of the United States. (Only open to Freshmen.) 6 s.h. (E & W)

DRs. HALL AND SINDLER

[Students completing 11 in the spring semester should take course 62.]

61-62. AMERICAN GOVERNMENT AND POLITICS.—A study of the American constitutional and political system. Among other topics attention is given to the development of the constitution, federal-state relations, political parties and the organization and functions of the national, state and local governments. 6 s.h. (W & E)

PROFESSOR CONNERY; ASSOCIATE PROFESSOR SIMPSON; ASSISTANT PROFESSOR CHEEK; DRs. HALL AND SINDLER; MR. ULMER

[Not open to freshmen or to students who have had courses 11-12 or 63-64.]

REQUIRED PHYSICAL EDUCATION

Two semester hours to be completed in two semesters are included in the 127 hours required for graduation.

At the beginning of the freshman year, after a series of tests have been given, individual conferences are held and each student is guided into the type of activity she most needs, as determined from the evaluation of the test scores and the results of the conference. This course continues for half the semester after which all freshmen take body mechanics and social recreation for the remainder of the semester.

Every student will take one semester of elected activity offered by the Department.

PSYCHOLOGY

116. PSYCHOLOGY OF ADJUSTMENT.—The course is planned to give an adequate understanding of problems of adjustment and of mental hygiene. Lectures and discussions cover an application of the principles and findings of normal and abnormal psychology as these relate to the adjustment of the average individual in our changing society; a survey of the principles of mental hygiene; discussions of current socio-cultural trends significant for individual adjustment. 3 s.h. (E)

ASSISTANT PROFESSOR REICHENBERG-HACKETT

RELIGION

1. THE ENGLISH BIBLE.—A survey of the contents of the Old Testament books in the light of their origin in the history and religion of the Hebrew people. 3 s.h. (E & W)

PROFESSOR CRUM; ASSISTANT PROFESSORS MANSCHRECK AND PRICE; DR. BENNETT; MESSRS. DANIELS AND OSBORN

2. THE ENGLISH BIBLE.—A study of the personalities and literature of the New Testament against their Jewish, Hellenistic and Roman background. Although Religion 1 is not a prerequisite, it will be an aid to the student to complete 1 before taking 2. 3 s.h. (E. & W.)

ASSOCIATE PROFESSOR PHILLIPS; ASSISTANT PROFESSORS MANSCHRECK AND PRICE; DR. BENNETT; MESSRS. DANIELS AND OSBORN

51. THE ENGLISH BIBLE.—An introductory course in the Old Testament for sophomores and juniors. (See description of Religion 1.) Students may not receive credit for both 51 and 1. 3 s.h. (E & W)

PROFESSOR MYERS; ASSISTANT PROFESSORS BRADLEY, MANSCHRECK, PRICE, AND SALES; MESSRS. DANIELS AND OSBORN

52. THE ENGLISH BIBLE.—A survey course in New Testament life and literature for sophomores and juniors. (See description of Religion 2.) It will be to the advantage of the students to take Religion 1 or 51 before taking 52. Students may not receive credit for both 52 and 2. 3 s.h. (E & W)

PROFESSOR MYERS; ASSOCIATE PROFESSOR PHILLIPS; ASSISTANT PROFESSORS BRADLEY, MANSCHRECK, AND SALES; MESSRS. DANIELS AND OSBORN

SOCIOLOGY

91-92. GENERAL SOCIOLOGY.—An introduction to the scientific study of social life; its origin, evolution and organization as illustrated in the study of a number of concrete social problems. 6 s.h. (E & W)

PROFESSOR JENSEN; ASSOCIATE PROFESSOR SCHETTTLER; ASSISTANT PROFESSORS ROY AND WHITRIDGE; MESSRS. HOWELL, McNURLEN, AND TUMBLIN

Sociology N151. FAMILY RELATIONS.—This course has two objectives. First, it seeks to familiarize students with those basic facts and problems in family life of which an understanding is essential to successful professional work by nurses. Second, the course seeks to provide students with such information and insights as may aid them in making successful adjustments in their own courtship and marriage. Either semester. 3 s.h.

INSTRUCTOR TO BE ANNOUNCED.

ZOOLOGY

1. ANIMAL BIOLOGY.—The principles of biology as applied to animals. 4 s.h. (W & E)

ASSOCIATE PROFESSORS HUNTER AND ROBERTS AND STAFF

2. GENERAL ZOOLOGY.—A brief survey of the animal kingdom. Prerequisite: Zoology 1. 4 s.h. (W & E)

PROFESSOR BOOKHOUT AND ASSOCIATE PROFESSOR HUNTER AND STAFF

SCHOOL OF NURSING

BIOLOGICAL AND PHYSICAL SCIENCE

Anat. 51. ANATOMY AND PHYSIOLOGY.—The student gains an understanding and appreciation of the way body structure and body functions serve to maintain and promote health. These enable the student to practice and teach good hygiene and to comprehend anatomical and physiological pathology intelligently. Audio-visual aids are used extensively and in conjunction with laboratory work the anatomical structures are demonstrated on dissected human specimens and certain physiological principles are demonstrated. 6 s.h.

PROFESSOR MARKEE AND STAFF;
PROFESSOR F. G. HALL AND STAFF

CHEMISTRY

Chem. 50. CHEMISTRY.—A course in the fundamentals of general inorganic chemistry with particular emphasis on the needs of the student nurse. A brief introduction to organic chemistry. 3 s.h.

ASSOCIATE PROFESSOR TAYLOR

Chem. 51. PHYSIOLOGICAL CHEMISTRY.—This course is designed to aid the student in understanding the chemical mechanism of the human body both in health and in disease. The student also acquires knowledge concerning the chemical basis of diagnosis and therapy. 3 s.h.

ASSOCIATE PROFESSOR TAYLOR

Micro. 4. MICROBIOLOGY.—From the learning experiences included in this course the student is enabled to understand and appreciate the role in the prevention of microbial disease. 3 s.h.

ASSISTANT PROFESSOR POPE

SOCIAL SCIENCE

N2. INTRODUCTION TO NURSING.—Designed to give the student an appreciation of the historical development of some of the present concepts in nursing. 1 s.h.
ASSOCIATE PROFESSOR INGLES

N160. SOCIAL FOUNDATIONS OF NURSING EDUCATION.—This course is designed to help the student consider the opportunities open to her, her special aptitudes and abilities, her responsibilities, the fields of work for which she presents potentially the best qualifications and how to get started in a professional career. She is helped to see the place of nursing in the social and economic world of today. Emphasis is placed on the need for cooperation between all professions if satisfactory conditions for the maintenance of health and the prevention of disease are to be realized. 3 s.h.
PROFESSOR JACOBANSKY

NURSING AND ALLIED ARTS

N91-92-93. Includes 12-24 hours per week of correlated clinical experience.

N120, 130, 140, 170, 190.—Includes 20-40 hours a week of correlated clinical experience.

N1. ORIENTATION TO THE HEALTH FIELD.—An introduction to basic health needs of the community and the agencies and programs designed to meet them. 2 s.h.
ASSISTANT PROFESSOR MASSEY

N61-62. NURSING ARTS.—A study of the fundamentals of healthful living and their adoption to basic nursing care in the home and in the hospital. Considers the nursing needs of individual patients and provides opportunity to plan and give the patient care. 6 s.h. ASSISTANT PROFESSOR RAPPAPORT, MISS KNOWLES AND STAFF

Nutr. 53. NORMAL NUTRITION AND DIETETICS.—This course considers the nutritive requirements for individuals in different stages of development, and in different occupations. The methods of supplying foods conforming to the individual nutritional needs are given for varying income levels. Actual foods are compared according to their contribution of specific nutrients, and in relation to their place in the daily diet. 3 s.h.
MISS EVANS

N91-92-93. MEDICAL AND SURGICAL NURSING.—A study of basic principles underlying nursing care of patients with common medical and surgical conditions. Pharmacology and therapeutics, nutrition in disease, and community aspects are included. 9 s.h.
ASSOCIATE PROFESSOR INGLES AND STAFF; ASSISTANT

PROFESSOR MASSEY; DR. HART AND STAFF;
DR. STEAD AND STAFF

N95. INTRODUCTION TO THE FIELD OF SOCIAL WORK.—An orientation to social work services and how they may be used to meet patients' needs in illness and in rehabilitation. 3 s.h.
ASSISTANT PROFESSOR WIEN

N120. PEDIATRIC AND COMMUNICABLE DISEASE NURSING.—This course is designed to help the student understand children, their response to illness, and the therapy involved in their care, so that she can assume her role in child health promotion in the hospital, the home, and the community. A developmental approach is used throughout the course with emphasis on the child as a member of the family. The acute communicable diseases of childhood are included.

ASSISTANT PROFESSOR MASSEY, MRS. CLARKE,
MRS. PAINTER; DR. HARRIS AND STAFF

N130. OBSTETRIC NURSING.—Considers normal and abnormal phases of the reproductive cycle basic to nursing care of the mother and newborn child including the premature infant. The effect of reproduction upon individual and family; community aspects and opportunities for teaching in maternal health promotion. 6 s.h.
ASSISTANT PROFESSOR MASSEY, MISS J. WILSON, MISS DAVIS,
MISS KIERNAN; DR. CARTER AND STAFF

N140. MEDICAL AND SURGICAL NURSING.—A continuation of Nursing 93. A discussion of principles of surgical aseptic technique basic to nursing practice in the operating room and practice in nutrition in disease are included in this course. 6 s.h.

ASSOCIATE PROFESSOR INGLES AND STAFF; ASSISTANT
PROFESSOR MASSEY, MISS CAMPBELL, DR. HART
AND STAFF; DR. STEAD AND STAFF

N170. PSYCHIATRIC NURSING.—Discussion of the principles of psychiatric nursing and the functions and responsibilities of the nurse in the total care of the psychiatric patient with emphasis on mental hygiene and care and rehabilitation of the mentally ill. 6 s.h.

ASSISTANT PROFESSOR ZUKOWSKI;
PROFESSOR BUSSE AND STAFF

N180. PUBLIC HEALTH NURSING.—During the course, students will have experience in planning with patients in meeting health needs. 6 s.h.

ASSISTANT PROFESSOR MASSEY

N190. ADVANCED MEDICAL AND SURGICAL NURSING.—Designed to clarify and broaden understanding of basic principles requisite for nursing care. Emphasis is placed upon application of prior learning to health teaching and guidance of hospital patients. Conferences and seminars. 3 s.h.

ASSOCIATE PROFESSOR INGLES AND STAFF;
ASSISTANT PROFESSOR MASSEY

Division of Nursing Education



Advanced Professional Programs

A DIVISION of Nursing Education was established in December, 1944, as an integral part of the Department of Education of Duke University. At the present time, qualified graduate nurses may work toward the degree of Bachelor of Science in Nursing Education.

The primary objective of the degree program for graduate nurses is to prepare qualified individuals for teaching and supervisory positions in schools of nursing and in nursing service agencies. Facilities for instruction include the undergraduate colleges of Duke University, the School of Nursing, the Medical School and Duke Hospital.

I. Degree of Bachelor of Science in Nursing Education

ADMISSION

Students who wish to work toward the degree of Bachelor of Science in Nursing Education must apply for admission to the Woman's College of Duke University. To be accepted they must satisfy the following requirements with respect to their high school education:

1. Graduation from an approved secondary school with at least fifteen acceptable units of credit.
2. Twelve units must be in English, foreign language, history and social studies, mathematics and natural science.
3. Three units may be in subjects listed above or in such subjects as art, commercial subjects, household economics, or music.

Students who have satisfactorily completed one or more years of college work in an approved college or university must also fulfill the requirements listed above with respect to high school credit, must present official transcripts of all work done in other institutions, and must have honorable dismissal from each institution previously attended.

Other basic minimum requirements include:

4. Graduation from an approved school of nursing.
5. Satisfactory ratings from individuals, with whom the applicant has had fairly recent contact.

OUTLINE OF PROGRAM

Credit for 120 semester hours (exclusive of physical education) on which an average grade of at least "C" is made is required for the degree of Bachelor of Science in Nursing Education. The work of the final year must be taken in residence at Duke University. One year of experience as a graduate nurse is required before the degree is awarded. The program of studies leading to this degree must include:

1. Minimum general education requirements (may be satisfied at Duke University or at any accredited college or university).

	S.H.
English 1-2.....	6
Natural Science.....	8
History, Economics or Political Science.....	6
Sociology.....	3-6
Psychology.....	3-6
Electives.....	12-15
(Literature, art, music, religion, ethics, language)	

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2. Basic Nursing Program 40 (maximum)

In evaluating credit the standing of the School of Nursing, the record of the individual student, and scores on basic nursing achievement tests administered by the Department of Measurement and Guidance of the National League for Nursing to all candidates as soon as they enroll in their first course are taken into consideration.

3. Courses in Education and Nursing Education.

	S.H.
88. Educational Psychology: Learning and Measurement.....	3
118. Educational Psychology: Psychological Development.....	3
84N. Social Foundations of Nursing Education.....	3
101N. The Curriculum of the School of Nursing.....	3
115N. } Nursing Education—Principles and Practice.....	8
116N. }	
117. Community Nursing—Seminar and Field Trips to Community Agencies.....	3
	<u>23</u>

4. Minimum of fifteen semester hours in one field, such as zoology, chemistry, physics, sociology, or psychology, or in a clinical area.

The following courses in clinical areas are offered at present:

	S.H.
120N. Problems in Nursing Care.....	3
130N. Psychosomatic Nursing.....	4
131N. } Psychiatric Nursing.....	8
132N. }	
133N. Seminar in Psychiatric Nursing.....	3
134N. } Medical and Surgical Nursing.....	8
135N. }	
136N. Seminar in Medical and Surgical Nursing.....	3

Other courses which are offered to graduate nurses are as follows:

192N. Principles and Methods of Teaching in School of Nursing.....	3
193N. Ward Administration and Teaching.....	3
194N. Team Nursing.....	2
195N. Personnel Work in Schools of Nursing.....	3
124N. Nursing Education: Teaching of the Nursing Arts.....	3

DESCRIPTION OF COURSES

84N. SOCIAL FOUNDATION OF NURSING EDUCATION.—A special section of Education 84, applied to Nursing Education. A survey of major historical, philosophical, and sociological factors which have affected developments in nursing and Nursing Education. The purpose of the course is to give the student a better understanding of the place of nursing in present day society and the responsibilities of the individual nurse toward that society. 3 s.h. ASSISTANT PROFESSOR RAPPAPORT

101N. THE CURRICULUM IN THE SCHOOL OF NURSING.—The general principles of curriculum making and the factors which determine the content and organization of the nursing school curriculum are considered in this course. 3 s.h. ASSOCIATE PROFESSOR INGLES

115N-116N. NURSING EDUCATION: PRINCIPLES AND PRACTICE.—A special section of Education 115-116. Principles of teaching applied to the nursing school situations and the planning and evaluation of instruction. Ninety hours of observation and of supervised teaching in the Duke University School of Nursing are required. Four hours of conference, observation, and practice teaching are required each week. Before beginning practice teaching, students must complete thirty hours of observation. (Not open to students who have had course 115-116.) 8 s.h. ASSISTANT PROFESSOR RAPPAPORT

117N. COMMUNITY NURSING.—Designed for administrators, teachers, and supervisors in schools of nursing. Emphasis is on the integration of out-patient departments and community social and health agencies into the nursing school curriculum and on the preparation of nurses for community service. 3 s.h. ASSISTANT PROFESSOR MASSEY

120N. NURSING EDUCATION: PROBLEMS IN NURSING CARE.—Each student works on an individual problem designed to improve the nursing care of patients. 3 s.h. ASSOCIATE PROFESSOR INGLES, ASSISTANT PROFESSOR ZUKOWSKI

124N. NURSING EDUCATION: TEACHING OF THE NURSING ARTS.—In this course an effort is made to help prospective teachers to integrate the facts and principles of the natural, social, and medical sciences into the teaching of nursing arts. Though major emphasis is placed upon problems which are involved in teaching the first course, the concept of the nursing arts as an integral part of each clinical area is stressed. 3 s.h. ASSISTANT PROFESSOR RAPPAPORT

130N. PSYCHOSOMATIC NURSING.—A study of the close relationship between mind and body in all illness and of the techniques of observation and interview both experimental and therapeutic. Lectures, clinics, conferences, discussions, and experience with patients. 4 s.h. ASSISTANT PROFESSOR ZUKOWSKI

131N-132N. PSYCHIATRY AND PSYCHIATRIC NURSING.—An advanced study with special emphasis on personality development and the preventive and therapeutic aspects of psychiatry and psychiatric nursing. In the second semester the management of practical situations of increasing complexity is stressed. Lectures, clinics, conferences, discussions, and experience with patients. 8 s.h. ASSISTANT PROFESSOR ZUKOWSKI, AND MEDICAL STAFF IN PSYCHIATRY

133N. SEMINAR IN PSYCHIATRIC NURSING.—Special study of areas such as behavior problems of children, projective tests, group therapy, mental hygiene clinics, etc. 3 s.h. ASSISTANT PROFESSOR ZUKOWSKI, AND MEDICAL STAFF IN PSYCHIATRY

134N-135N. ADVANCED MEDICAL AND SURGICAL NURSING.—A study of the medical and surgical aspects of selected diseases aimed at giving the student a better comprehension of the total care necessary to bring about the best possible results for patients. Lectures, discussions, case histories, and planned observation and experience with patients. 8 s.h. ASSOCIATE PROFESSOR INGLES AND MEDICAL STAFF

136N. SEMINAR IN MEDICAL OR SURGICAL SPECIALTY.—Directed study in a selected medical or surgical specialty. Each student works on a problem of major interest to her. Individual research in the collection of original material. 3 s.h. ASSOCIATE PROFESSOR INGLES

192N. PRINCIPLES AND METHODS OF TEACHING IN SCHOOLS OF NURSING.—The primary purpose of this course is to help teachers in schools of nursing to understand and to utilize generally accepted principles of learning and to carry out a more effective teaching program in a school of nursing. Instruction is given in the planning of courses, in methods of teaching in classrooms and in hospital divisions, in construction of examinations, and in the utilization of other methods of determining the effectiveness of a teaching program. 3 s.h.

ASSISTANT PROFESSOR RAPPAPORT

193N. WARD ADMINISTRATION AND TEACHING.—This course is designed to help head nurses better to understand their functions in planning and managing a program on a hospital division which will result in improved care of patients, greater satisfaction for professional and non-professional personnel, and a more adequate teaching program for students and others. 3 s.h.

ASSOCIATE PROFESSOR INGLES

194N. TEAM NURSING.—Discussion of principles of Team Nursing, and practice in a clinical area as a team member and a team leader. 7:00-12:20. Room 3032, Duke Hospital. Monday through Friday, July 25-August 5. Limited to 20 students. 2 s.h.

PROFESSOR CLARK AND STAFF

195N. PERSONNEL WORK IN SCHOOLS OF NURSING.—The primary purpose of this course is to help head nurses and supervisors to develop greater understanding of the principles of human behavior and greater ability to apply these principles in working with patients and others on hospital divisions, and in establishing cooperative relationships with other departments of the hospital. 3 s.h.

PROFESSOR JACOBANSKY

II. Degree of Master of Education with a Major in Nursing Education

(Not offered in 1955-1956)

ADMISSION

A student who wishes to work toward the degree of Master of Education with a major in Nursing Education must apply for admission to the Graduate School of Duke University. To be eligible for admission as a candidate for this degree she must meet the following requirements:

- (1) Graduation from an approved college or university with an average grade of not less than "B."
- (2) Satisfactory standing on the Graduate Record Examination.
- (3) Satisfactory standing on a test of mental ability.
- (4) Ability to write acceptable English as demonstrated on a test.
- (5) Graduation from an approved school of nursing.
- (6) Satisfactory ratings from three individuals, preferably former teachers and supervisors with whom the individual has had fairly recent contact.

OUTLINE OF PROGRAM

Basic Required Courses in Education:

	S.H.
300. Methods of Educational Research.....	3
304. The School as an Institution.....	3
305. The Nature, Function, and Reorganization of the Curriculum.....	3
317. The Psychological Principles of Education.....	3
	<hr/> 12

Courses in Nursing Education:

310. Organization and Administration of Schools of Nursing.....	4
311. Problems in Personnel Administration in Nursing.....	4
312. Research Problem.....	4
	<hr/>
Minor, intra-departmental or extra-departmental.....	12
	<hr/>
	30

Candidates for the Master of Education degree must have had two years of experience including administration, supervision, or teaching in a school of nursing or nursing service organization when the degree is granted.

Tuition, Fees, and Other Expenses

FEES PER SEMESTER

A matriculation fee of \$20.00 is paid at the time of acceptance to Woman's College.

Tuition.....	\$225.00
General Fee (Undergraduate) including health, library and incidental fees.....	75.00
General Fee (Graduate School).....	60.00
Laboratory Fee (amount depends upon course which is taken)	

LIVING ARRANGEMENTS

Students may make their own arrangements to live in private homes or Woman's College dormitories. Applications for a room in the College dormitory should be made to Housing Bureau, Duke University.

EMPLOYMENT

A limited number of nurses may be employed at Duke Hospital during the time they are taking courses at Duke University. Nurses who are working full-time (44 hours per week) may take one course each semester. Nurses who wish to reduce hours of work per week to 36, with a corresponding reduction in salary, may take two courses each semester.

For information about employment write to the Director of Nursing Service, Duke Hospital.

Program in Psychiatric Nursing



A TWELVE-MONTH program in psychiatric nursing is offered to qualified graduate nurses. The primary objective of this program is to prepare individuals for head nurse position in psychiatric units of hospitals, child guidance clinics, and related fields. Students who wish to qualify for supervisory or teaching positions in the psychiatric field are advised to complete the program which leads to the degree of Bachelor of Science in Nursing Education.

Facilities for clinical teaching and experience include the psychiatric in-patient unit, the out-patient department, the psychosomatic service of Duke Hospital, child guidance clinics, the State Hospital in Raleigh, N. C., and Highland Hospital in Asheville, N. C.

Students have approximately 20 hours per week of carefully planned laboratory practice on clinical services, during which time they work closely with patients presenting a wide variety of emotional disturbances. They also have an opportunity to participate in staff conferences and clinics at Duke Hospital and at the State Hospital in Raleigh.

Approximately 30 semester hours of credit toward the Bachelor of Science in Nursing Education degree may be earned during the calendar year.

A limited number of training stipends are available through the U. S. Public Health Service for those nurses who have demonstrated particular interest and aptitude in this field.

Requirements for admission are the same as for all students admitted to the program which leads to the degree of Bachelor of Science in Nursing Education.

OUTLINE OF PROGRAM (ONE YEAR)

		<i>Credits</i>
Fall Semester		
Educ. 130N Psychosomatic Nursing.....	4	
Educ. 131N Psychiatric Nursing.....	4	
Electives Recommended by Instructor.....	8	
		<hr/> 16
Winter Semester		
Educ. 132N Psychiatric Nursing.....	4	
Educ. 133N Seminar in Psychiatric Nursing.....	3	
Electives Recommended by Instructor.....	8	
		<hr/> 15
Summer		
Educ. 120N Problem in Nursing Care.....	3	

Program in Medical and Surgical Nursing



A TWELVE-MONTH program in medical and surgical nursing is offered to qualified graduate nurses. The primary objective of this program is to prepare individuals for head nurse positions in medical and surgical units of hospitals. Credit for the entire program applies toward the degree of Bachelor of Science in Nursing Education. Students who are interested in teaching and supervision in medical and surgical nursing are urged to complete all requirements for the degree.

OUTLINE OF THE PROGRAM

<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>
130N	Psychosomatic Nursing.....	4	193N	Ward Administration and Teaching.....	3
134N	Medical and Surgical Nursing.....	4	135N	Medical and Surgical Nursing.....	4
84N	Social Foundations of Nursing Education.....	3	117N	Community Nursing.....	3
	Elective.....	3-6		Elective.....	3-6
		14-17			13-16

SUMMER SESSION

S136N	Seminar in Medical and Surgical Nursing.....	3
S120N	Problem in Nursing Care.....	3

The courses in medical and surgical nursing and in psychosomatic nursing will include from four to 16 hours per week of field work in medical and surgical divisions and medical and surgical out-patient clinics of Duke Hospital, and with various community health and social agencies. Students who are interested in a particular medical or surgical specialty (orthopaedic nursing, neurosurgical nursing, etc.) may have added experience in that area during the summer months. For some students experiences in other hospitals may be arranged.

Requirements for admission are the same as for all students admitted to the program which leads to the degree of Bachelor of Science in Nursing Education.

THE SCHOOL OF FORESTRY

Fall Semester begins September 22, 1955

Spring Semester begins February 1, 1956

Forestry in Duke University



General Statement

FORESTRY in Duke University began early in 1931, when, through placing the Duke Forest under intensive management for forestry purposes, a substantial beginning was made in laying the foundation for educational work and research in forestry.

An academic-forestry curriculum, designed for students intent upon pursuing the study of forestry, particularly as a profession after graduation, was organized in Trinity College of Duke University in 1932. This course of study provides only for instruction in fundamental and auxiliary subjects basic to a proper understanding of the highly specialized work in technical forestry. Duke University offers no professional degree in technical forestry available to undergraduates.


Training in technical forestry leading to the professional degrees, Master of Forestry and Doctor of Forestry, is offered in the School of Forestry, and is open to graduates of recognized scientific schools or colleges, universities, and professional schools of forestry and to other men who meet the entrance requirements of the school.

Duke University is also prepared to offer, through the Graduate School of Arts and Sciences, graduate work in the more scientific aspects of forestry leading to the Master of Arts and Doctor of Philosophy degrees. This work is available to graduates of schools of forestry of recognized standing, and to college or university graduates holding the Bachelor's degree with their major work in appropriate scientific subjects.

Educational Facilities

A description of the facilities of the School of Forestry and of the Duke Forest is given in the *Bulletin of the School of Forestry*.

Fellowships, Scholarships, and Graduate Assistantships in Forestry



A NUMBER of fellowships, scholarships, and research assistantships are available to men who offer promise of becoming leaders in the forestry profession. These will be awarded for high character and marked scholastic ability as judged by education, experience, and personal references. For more detailed information see the *Bulletin of the School of Forestry*.

Tuition, Fees and Expenses



THE following table shows the general fees and charges collected from all students. All fees for each semester are due and payable, unless otherwise specified, at the time of registration at the beginning of that semester, and no student is admitted to classes until arrangements have been made with the Treasurer of the University for the settlement of fees.

General Fees

Tuition, per semester.....	\$225.00
General Fee, per semester.....	60.00

Forestry students may obtain admission to all regularly scheduled University athletic contests held on the University grounds during the entire academic year by payment of the athletic fee of \$10.00 per year plus any Federal taxes that may be imposed. This fee is payable in the fall semester.

TRANSCRIPTS: A student desiring to transfer from Duke University to another institution is entitled to one transcript of his record. A charge of one dollar is made for each additional copy.

PAYMENTS TO FELLOWS AND SCHOLARS: Payments by the University of stipends to fellows, research assistants, and scholars are made in four installments, on November 25, January 25, March 25, and May 25. Fellows and scholars are required to pay the regular tuition fee and such additional fees as are ordinarily required of graduate students.

Living Accommodations

Rooms for men are provided in the Men's Graduate Center. Food service is available. For more complete information see the *Bulletin of the School of Forestry*.

Requirements for Admission to the School of Forestry



THE admission requirements of the School of Forestry for work toward the Master of Forestry degree presuppose that an applicant is either:

1. A graduate of a scientific school, college, or university of high standing, but without professional training in forestry, or
2. A graduate of a professional school of forestry, or
3. A student who has successfully completed the pre-forestry curriculum of one of the institutions cooperating with the School of Forestry, as indicated in the *Bulletin of the School of Forestry*.

Each applicant must present a certified transcript of his academic record showing the courses he has taken, the number of credit hours he has earned and the grades received. The total number of quality points* must be at least one and one half times the total credit hours to meet the minimum scholastic standards required for admission to the School. An applicant also must have satisfactorily completed undergraduate work in minimum amount, as follows:

One year of biology, including at least one semester of botany, or one year of botany.

One year each of English composition and of chemistry.

One course each in physics and in the principles of economics.

Mathematics, through college algebra and trigonometry.

It is urged that an applicant without professional training in forestry present additional credits in the above subjects and in one or more of the following subjects: soils, geology, mineralogy, petrology, climatology, surveying, languages (particularly German and French), sociology, political science, philosophy, psychology, and zoology.

An applicant who is a graduate of a professional school of forestry will present a certified transcript of scholastic record showing the

* Grades for each hour of college credit and also, for credit earned in the School of Forestry are valued in quality points as follows: "A," 3 points; "B," 2 points; "C," 1 point; "D," no points; and "F," no credit and —1 point, unless the failed courses have later been passed.

award of a degree. Before registering for the first semester of residence, such applicants will be required to select the branch or branches of forestry in which they wish to concentrate the major part of their work and to prepare their proposed programs in conference with the appropriate faculty adviser. Ordinarily graduates of a fully accredited school of forestry should be able to meet all requirements for the Master of Forestry degree in one full school year of resident study; others will require a longer period of residence.

Students must make application for admission in advance of the opening of the school year. Those students entering without acceptable courses in plane surveying, forest-tree identification, forest surveying, and forest mensuration must take the work in these subjects in the Summer Session, and are required to submit their applications prior to May 1. Students entering with advanced standing in all four courses should make application before September 1. Application blanks will be sent upon request made to the Dean of the School of Forestry.

Cooperative Plan of Study with Selected Colleges and Universities



AWARE of the far reaching values to be derived from training in the liberal arts and sciences, the Duke School of Forestry, since its inception, has had the cooperation of Trinity College, the men's undergraduate college of arts and sciences of Duke University, in preparing students for professional careers in forestry. Under the plan a student devotes his first three years to a coordinated and carefully integrated program of study in the basic arts and sciences in Trinity College. The summer between his junior and senior year and the two following school years are spent in the School of Forestry. Upon the successful completion of this five-year course of study, a student has earned the Bachelor of Science degree from Trinity College and the professional Master of Forestry degree from the Duke School of Forestry.

Based upon the experience and success of this cooperative program with Trinity College, the School of Forestry in 1952 initiated similar programs of collaboration with a selected group of colleges and universities located throughout the United States. These programs offer students the numerous advantages of a broad background in liberal arts and sciences as preparation for later professional training. A student intent upon following such a course of study should make application to one of the colleges listed below. Admission requirements and

other information pertinent to matriculation may be obtained from each of these institutions. Not later than the end of the first semester of the third year in the college or university of his choice, the student must make formal application for admission to the Duke School of Forestry. To qualify for admission under these programs, a student must have followed a planned course of study arranged in consultation with his advisor, must have the official recommendation of his college, and must meet the minimum requirements for admission to the Duke School of Forestry.

A list of cooperating schools is given in the *Bulletin of the School of Forestry*.

Requirements for the Degree of Master of Forestry

THE degree of Master of Forestry (M.F.) is conferred upon students who have satisfactorily completed at least two years of study in technical forestry and one term of thirteen weeks' work in plane surveying, forest-tree identification, forest surveying, and forest mensuration in the Summer Session. In addition to the Summer Session work a total of not less than sixty semester hours' credit is required for the M.F. degree, of which at least fifty shall have been obtained in the School of Forestry. Each student, to qualify for the M.F. degree, must have obtained at least one and one half quality points per semester hour of credit under the quality-point system (see page 376).

Field studies of typical timber-harvesting, manufacturing, and other utilization operations in the South Atlantic Coastal Plain are conducted from the School's field headquarters during a two-week period in the spring semester as part of the work required of students registered in Harvesting and Processing Forest Products (Forestry 211-212). Other students may be permitted or advised to take the field trip for which one semester hour of credit may be earned by registering for Forestry 212. A similar period of field work in forest soils, silviculture, forest management, and other subjects in the coastal plain is available to students.

No student may take less than fourteen or more than eighteen hours in any one semester without special permission of the School of Forestry Faculty. The following work will be required of all candidates for the M.F. degree:

SUMMER SESSION

	S.H.
Plane Surveying (C.E. S110).....	4
Forest-Tree Identification (F. S149).....	1
Forest Surveying (F. S150).....	4
Forest Mensuration (F. S151).....	4

FIRST YEAR

First Semester

S.H.

Harvesting and Processing Forest Products (F. 211).....	3
Properties of Wood (F. 259).....	3
Forest Soils (F. 261).....	3
Economics of Forestry (F. 277).....	3
Electives	3

Second Semester

S.H.

Harvesting and Processing Forest Products Field Trip (F. 212).....	1
Forest Pathology (F. 224).....	3
Sampling Methods (F. 251).....	3
Dendrology (F. 254).....	3
Silvics (F. 264).....	3
Electives	2

SECOND YEAR

Two curricula in forestry are available after the common minimum requirements for both have been met. One is in general forestry; the other in forest products. The required work in each curriculum, in addition to that common to both, is:

GENERAL FORESTRY CURRICULUM

<i>First Semester</i>	S.H.	<i>Second Semester</i>	S.H.
Forest Entomology (F. 231).....	3	Soils and Silviculture Spring	
Silviculture (F. 265).....	3	Trip (F. 266).....	1
Applied Silviculture (F. 267).....	1	Forest Protection (F. 274).....	2
Forest Valuation (F. 279).....	3	Advanced Forest Management (F. 342).....	2
Forest Management (F. 281).....	3	Thesis research or electives.....	10
Thesis research or electives.....	2		

FOREST PRODUCTS CURRICULUM

<i>First Semester</i>	S.H.	<i>Second Semester</i>	S.H.
Seasoning and Preservation (F. 213).....	3	Forest Products Entomology (F. 232).....	3
Silviculture (F. 265).....	3	Wood Anatomy (F. 260).....	3
Forest Management (F. 281).....	3	Industrial Engineering (Eng. 158).....	3
Advanced Forest Utilization (F. 311).....	3	Thesis research or electives.....	6
Thesis research or electives.....	3		

The submission of a thesis for the M.F. degree is optional. In lieu of a thesis, and with the approval of a student's faculty adviser, an acceptable report on a special study will be required, credit for which will not exceed three semester hours.

Each candidate who writes a thesis will be required to file in the office of the Dean of the School of Forestry on or before May 15 three copies of the thesis, typewritten and bound in accordance with regulations set forth by the Faculty. The thesis shall be based upon an original study made in the field, laboratory, or library.

Work of equivalent grade done in residence at other institutions may, with the approval of the Faculty, be accepted as credit toward the M.F. degree. A minimum of one year's residence is required at Duke University. Students who have had satisfactory undergraduate training in forestry may, with the approval of the Faculty, elect to devote the major portion of their time to research under the supervision of one or more members of the Faculty and prepare a more comprehensive thesis than is required of students entering the School without previous work in forestry. Students in the School of Forestry may take in allied departments of the University as electives certain courses approved by the Faculty.

Requirements for the Degree of Doctor of Forestry



THE degree Doctor of Forestry (D.F.) is a professional and research degree conferred on those students who have satisfactorily completed specified requirements of advanced study and research. Although course work is a necessary part of a student's program, the mere accumulation of course credits will not be sufficient for the attainment of this degree. The granting of the D.F. degree is based primarily upon the student's thorough knowledge of a specialized field of study and upon the production of an acceptable dissertation embodying the results of original research. The general requirements, which are presented in the following paragraphs, ordinarily will be rigidly adhered to, although deviations in exceptional cases may be made with the approval of the Faculty of the School of Forestry.

The D.F. degree is offered with majors (also minors) in the following branches of forestry: forest economics, forest entomology, forest management, forest mensuration, forest pathology, forest soils, forest-tree physiology, forest utilization, silvics, silviculture, and wood and forest products technology.

Prospective students should correspond with the Dean of the School of Forestry on all matters pertaining to admission to the School.

ENTRANCE REQUIREMENTS: A prospective student must have received the degree of Master of Forestry, or its equivalent, from a school of forestry of recognized standing. His scholastic average for his undergraduate work must be at least $11\frac{1}{2}$ quality points, and that of his graduate studies two quality points per hour of credit.

An applicant must file a formal application for admission together with transcripts of his undergraduate and graduate academic records. In his application he should clearly state the branch of forestry in which he desires to concentrate, and if possible, the specific research.

The Committee on Admissions of the School of Forestry, together with the prospective student's major adviser, will determine if the qualifications of the applicant meet entrance requirements.

RESIDENCE REQUIREMENTS: The period of resident study beyond the M.F. degree or its equivalent is two years. Course work of equal grade taken at another college or university may, with Faculty approval, be accepted in partial fulfillment of the residence re-

quirement, but the last year of residence must be at Duke University. With the approval of the Faculty, one year of resident credit may be granted for work taken in the regular terms of the Summer Session of Duke University. Graduate work of a fragmentary nature taken over a period of several years will not meet the residence requirement.

PROGRAM OF STUDY: A committee consisting of five members of the Faculty will be appointed by the Dean to supervise the work of each student. This committee shall consist of a major adviser, a minor adviser and three other Faculty members. The major adviser will serve as Committee Chairman.

If the student's previous training is inadequate, he will be required to remedy such deficiencies as may be directed by his committee. The student, in consultation with his advisers, will prepare a program of study and research. The proposed program will be presented to the committee for consideration and acceptance, and then submitted to the Faculty of the School of Forestry for final approval. The minor requirement may be fulfilled by advanced course work or course work and research. Requirements for the minor will be established by the Faculty member in charge of the field. The minor may be taken in the School of Forestry, or in another department, school, or college in the University.

A grade point average of at least two quality points per credit hour is required of all work toward the doctorate.

FOREIGN LANGUAGES: A reading knowledge of two foreign languages is required. One of these shall be either French or German; the other will be selected by the committee with the view toward determining the student's needs. The foreign language examinations will be conducted by the appropriate language departments or, for certain languages, by a qualified member of the Faculty of Duke University.

COMPREHENSIVE EXAMINATION: At least six months before the student expects to receive the D.F. degree, and after he has completed the foreign language requirement and most of his formal course work, he will be required to take a comprehensive preliminary examination. The examination will be written in subjects specified, and may be followed by an oral examination given by the committee. The decision as to whether the examination has been passed or failed is the responsibility of the committee.

Should the student fail the comprehensive examination he may apply for a second examination to be taken not earlier than six months after the first. Failure in the second examination renders the student ineligible to continue work for the D.F. degree at Duke University.

Upon satisfactory completion of the preliminary examination the student shall be considered a candidate for the D.F. degree.

DISSERTATION: In addition to obtaining adequate training in the field of his specialty, the student must demonstrate his ability to plan and conduct sound, original research. Evidence of this accomplishment must be presented in the form of an acceptable dissertation embodying the results of original work, which is a definite contribution to knowledge.

The subject of the dissertation must receive the approval of the Faculty, and the title filed with the Dean of the School of Forestry on or before October 15 of the academic year in which the candidate desires to take his final examination.

Four typewritten copies of the dissertation in approved form, must be deposited with the Dean of the School of Forestry on or before April 15 of the academic year in which the student expects to obtain the D.F. degree. The original and first carbon copy will be deposited in the University Library, the major adviser will receive one copy, and the fourth copy will be returned to the student.

The dissertation must be published either in its original form or in a modified form approved by the major adviser. In its published form the title page should include this statement: "A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Forestry in the School of Forestry of Duke University." In some instances an abstract, published in a recognized journal, will be considered as meeting the publication requirement.

The candidate must deposit a fee of \$50.00 with the Treasurer of the University on or before May 1 of the year the degree is to be conferred. If the dissertation is published in acceptable form within three years from the time the degree is granted, the deposit will be returned to the student upon receipt of 10 reprinted copies of the publication.

FINAL EXAMINATION: The final examination will be in defense of the candidate's dissertation and on related subject matter. It will be oral and will be conducted by the supervisory committee. At least six months must elapse between the dates of the preliminary and the final examinations.

Forestry in the Graduate School



MAJOR and minor work is offered in the scientific aspects of forestry leading the A.M. and Ph.D. degrees, which are administered by the Graduate School of Arts and Sciences. Work for these degrees may be pursued only in forest-tree physiology, wood anatomy and properties, forest pathology, silvics, forest soils, forest mensuration, forest entomology, and forest economics. Students who have had specialized training in botany or soil science and in allied basic subjects, such as physics, chemistry, geology, and zoology, may pursue graduate study and research only in the specialized fields for which their previous work has qualified them. Students who do not have previous training in forestry will be required to complete a minimum of thirty semester hours of approved work in forestry as a preliminary requirement to advanced study for the A.M. and Ph.D. degrees. Holders of these degrees will not be regarded as professionally trained foresters.

Applicants for admission to the Graduate School must ordinarily have made, in their undergraduate work, not less than a "B" average and must not have concentrated excessively in one field of study to the detriment of a rounded program. They should have met substantially the requirements for the A.B. or B.S. degree at Duke University.

In addition to fulfilling the usual requirements for admission, the applicant must satisfy the Director of Graduate Studies in Forestry as to his liberal arts training, as well as to his preliminary training in the field of forestry.

For detailed information concerning admission to the Graduate School, and for regulations governing candidacy for the A.M. and Ph.D. degrees, language requirements, residence requirements, and other regulations concerning these degrees, the student should consult the *Bulletin* of the Graduate School of Arts and Sciences.

Courses and Subjects of Instruction



With the exception of the Summer Session courses, odd-numbered courses are offered in the autumn semester, and even-numbered courses are offered in the spring semester.

IN THE SUMMER SESSION

C.E. S110. PLANE SURVEYING.—A special section of C.E. 61 intended for students in forestry and others of advanced standing. *Four weeks, eight hours a day, beginning June 14, 1955. 4 s.h.* MR. THARP

S149. FOREST-TREE IDENTIFICATION.—Field studies leading to the identification of trees and principal shrubs indigenous to the Piedmont and coastal plain forests of the Southeastern United States. *One week, eight hours a day, beginning July 12, 1955. 1 s.h. (w)* MR. HARRAR

S150. FOREST SURVEYING.—Application of plane surveying to forest problems; practice in making boundary and topographic surveys of forested tracts, using both intensive and extensive methods. Work includes use of transit, level, traverse board, topographic abney and slope tape, and aneroid barometer. Prerequisites: Civil Engineering S110, plane surveying, Forestry S149, forest-tree identification or equivalents. *Four weeks, eight hours a day, beginning July 19, 1955. 4 s.h. (w)* MR. CHAIKEN

S151. FOREST MENSURATION.—Field studies in methods of measuring content and growth of trees and forest stands; practice in timber estimating, log scaling, use of mensurational instruments, and collection of basic data. *Four weeks, eight hours a day, beginning August 16, 1955. 4 s.h. (w)* MR. SCHUMACHER

FOR SENIORS AND GRADUATES

211-212. HARVESTING AND PROCESSING FOREST PRODUCTS AND FIELD TRIP.—Methods of harvesting and processing forest products with emphasis on methods and costs in managed North American forests. A two-week field trip (F. 212), during which typical forest harvesting operations and processing plants are studied, is required of students taking Forestry 211. The field trip (F. 212) may be taken by other students having had work equivalent to Forestry 211. F. 211—3 s.h.; F. 212—1 s.h. (w) MR. WACKERMAN

213. SEASONING AND PRESERVATION OF WOOD.—Principles of seasoning lumber and other forest products by air drying and kiln drying, types of kilns and their operation; principles, methods, and materials used in treating wood to increase its durability. 3 s.h. (w) MR. WACKERMAN

214. MARKETING FOREST PRODUCTS.—Methods of selling and distributing timber, lumber, and other forest products in domestic and foreign trade; transportation methods; promotional activities of trade associations; competition between producing regions for markets and problems arising from the development of wood substitutes. Prerequisites: Forestry 211-212 or equivalent. 3 s.h. (w) MR. WACKERMAN

216. LUMBER MANUFACTURING.—Methods of processing logs for sawn products with emphasis on the principles involved in obtaining maximum volume and quality yield for large and small mills and concentration yards; trends in production and consumption of lumber by regions and the development of new lumber products. 3 s.h. (w) MR. WACKERMAN

224. **FOREST PATHOLOGY.**—Infectious and non-infectious diseases of forest trees, and related deterioration of forest products. Field and laboratory study of symptoms, etiology, and control. Prerequisites: Botany 1 and 2, or equivalent. 3 s.h. (w)
Mr. JOHNSON

231. **FOREST ENTOMOLOGY.**—Principles of protecting forests from insect attack; character of insect damage to forest trees and their products; identification and biology of important species; survey methods and control. 3 s.h. (w)
Mr. ANDERSON

232. **FOREST-PRODUCTS ENTOMOLOGY.**—Recognition of insect damage to wood products; etiology, biology and control of important species. 3 s.h. (w)
Mr. ANDERSON

236. **FOREST-GAME MANAGEMENT.**—Principles of management for the sustained production of desirable game and fur animals on forest lands; characteristics and biology of important species. 3 s.h. (w)
Mr. ANDERSON

237. **FOREST-RANGE MANAGEMENT.**—Principles of management of livestock grazing on forest ranges on the basis of sustained multiple use. 3 s.h. (w)
Mr. ANDERSON

251. **SAMPLING METHODS IN FORESTRY.**—Statistical background for solution of sampling problems with special reference to sample inventory of a forest property. Offered both semesters. Prerequisite: Forestry SI51. 3 s.h. (w)
Mr. SCHUMACHER

252. **FOREST MENSURATION.**—Empirical equations and curve fitting appropriate for construction of timber yield tables, tree volume and taper tables; significance tests and graphical solution of equations. Assignments require operation of calculating machines. Prerequisite: Forestry 251. 3 s.h. (w)
Mr. SCHUMACHER

254. **DENDROLOGY.**—Nomenclature, classification, and identification of woody plants with special reference to species indigenous to southeastern United States and other important forest regions of temperate North America. Laboratory and field work. Prerequisite: one year of biology. 3 s.h. (w)
Mr. HARRAR

255. **BONDING OF WOOD.**—Preparation of veneers and lumber for bonding; types and characteristics of modern adhesives used in the manufacture of plywood and laminates; cold and hot pressing procedures; use of electronic heating; bag molding techniques; manufacture and properties of transmuted wood; inspection and testing procedures. Prerequisite: Forestry 260 or equivalent. 3 s.h. (w)
Mr. HARRAR

257. **DESIGN OF FORESTRY EXPERIMENTS AND ANALYSIS OF DATA.**—Role of experimental design in field and laboratory, and statistical analysis of data as aspects of scientific methods in forest research. 5 s.h. (w)
Mr. SCHUMACHER

259. **PROPERTIES OF WOOD.**—The chemical nature of wood substance and its industrial chemical derivatives. Wood-moisture relationships; pertinent non-mechanical physical properties; mechanical properties and factors affecting the strength of wood; standard timber testing procedures. Uses of woods as determined by their properties. Prerequisites: one year of college chemistry; one course in college physics. 3 s.h. (w)
Mr. HARRAR

260. **WOOD ANATOMY.**—Study of the physical features and the gross and minute structural characteristics of wood leading to the identification of the commercial woods of the United States, and the important tropical woods used in American wood-working industries. Elementary microtechnique. Prerequisite: one year of biology. 3 s.h. (w)
Mr. HARRAR

261. **FOREST SOILS.**—Origin, development, and classification of soils with special emphasis on those developed in humid climates; morphological, physical, and chemical properties of soils in relation to growth of trees; effect of forests on soils. Prerequisites: Chemistry 1 and 2, and Physics 1, or equivalent; physical geology, mineralogy, petrology, and analytical chemistry are also desirable. 3 s.h. (w)
Mr. RALSTON

264. SILVICS.—Ecological foundations of silviculture with special reference to forest site factors; influence of forests on their environment; growth and development of trees and stands; origin, development, and classification of forest communities; methods of studying forest environments. Desirable prerequisites: plant physiology, plant ecology, and Forestry 261, or equivalents. 3 s.h. (w)

MR. RALSTON

265. THEORY AND PRACTICE OF SILVICULTURE.—Principles governing natural regeneration and treatment of forest stands and their application; reproduction methods, intermediate cuttings, and cultural operations. Field practice includes marking for various kinds of cuttings, cultural treatments, and study of managed stands in the Duke Forest. Prerequisite: Forestry 264 or equivalent. 3 s.h. (w)

MR. KORSTIAN

266. SOILS AND SILVICULTURE SPRING TRIP.—Approximately one week at spring camp studying soils and silviculture in the coastal plain. Prerequisites: Forestry 261, 265 or equivalents. 1 s.h.

MR. RALSTON

267. APPLIED SILVICULTURE.—Application and comparison of silvicultural practices to principal commercial forest species, types and regions of temperate North America, with particular emphasis on the South. Field work will include preparation of silvicultural plans. Prerequisite: Forestry 265 or equivalent. 1 s.h. (w)

MR. KORSTIAN

268. FOREST SEEDING AND PLANTING.—Place of artificial regeneration in practice of forestry; reforestation surveys and plans; collection, extraction, cleaning, testing and storage of forest tree seeds; direct seeding; nursery practice; forest planting. 2 s.h. (w)

MR. KORSTIAN

274. FOREST PROTECTION.—Principles of forest protection; causes, character and effects of forest fires; principles of forest fire prevention, suppression and suppression; fire control costs and fire plans; protection against domestic animals, wildlife, and atmospheric agencies. 2 s.h. (w)

MR. CHAIKEN

276. FORESTRY POLICY.—Objective study and analysis of the development of public land and forestry policies in the United States, present policies of public and private forestry organizations, and current policy issues in the light of economic and other criteria. Prerequisites: Forestry 279, 281. 2 s.h. (w)

MR. STOLTENBERG

277. ECONOMICS OF FORESTRY.—Principles of economics used in the analysis of factors affecting the supply of forest products, pricing of stumpage and primary forest products, factors affecting the demand for forest products, economic characteristics and problems of the major forest products industries; analysis of such specific private forestry problems as marketing, forest ownership pattern, taxation, credit, risk, and economic fluctuations. Prerequisite: at least one course in the principles of economics. 3 s.h. (w)

MR. STOLTENBERG

279. FOREST VALUATION.—Principles of economics applied to the appraisal of land values and management alternatives; theory and application of interest and the discount process; marginal analysis applied to the specific problems of firms engaged in forestry. Prerequisite: Forestry 277 or consent of the instructor. 3 s.h. (w)

MR. STOLTENBERG

281. FOREST MANAGEMENT.—Principles of organizing forest properties for systematic management; use of data obtained in surveys and inventories; principles of forest regulation, including a study of normal and actual forests, rotations, cutting cycles, and methods of regulating the cut in even-aged and all-aged forests for sustained yield; introduction to the preparation of preliminary forest management plans. Prerequisites: Forestry S150, S151, or equivalents. 3 s.h. (w)

MR. CHAIKEN

211A. TO 282A. SPECIAL STUDIES IN FORESTRY.—Work on the same level as the foregoing Senior-Graduate courses to meet the needs of individual students. Credits and hours to be arranged.

THE STAFF

FOR GRADUATES

301-302. ADVANCED STUDIES IN FORESTRY.—Credits to be arranged. To meet individual needs of graduate students in the following branches of forestry:

A. SILVICS.—Prerequisites: Forestry 254, 261, and 264 or equivalents.

MR. KORSTIAN

B. FOREST SOILS.—Prerequisite: Forestry 261 or equivalent.

MR. RALSTON

C. SILVICULTURE.—Prerequisites: Forestry 265, 266 and 267 or equivalents.

MR. KORSTIAN

D. FOREST MANAGEMENT.—Prerequisite: Forestry 281 or equivalent.

MR. CHAIKEN

E. FOREST ECONOMICS.—Prerequisite: Forestry 277 or equivalent.

MR. STOLTENBERG

F. PROPERTIES OF WOOD.—Prerequisites: Forestry 259 and 260, or equivalents.

MR. HARRAR

G. FOREST MENSURATION.—Prerequisite: Forestry 252, or equivalent.

MR. SCHUMACHER

H. FOREST ENTOMOLOGY.—Prerequisites: Forestry 231, 232 or equivalents.

MR. ANDERSON

I. FOREST UTILIZATION.—Prerequisite: Forestry 211-212 or equivalent.

MR. WACKERMAN

J. DENDROLOGY.—Prerequisite: Forestry 254 or equivalent.

MR. HARRAR

311. ADVANCED FOREST UTILIZATION.—Analysis of the principles of determining the cost of and return from harvesting and manufacturing timber for various products and other uses of forests; study of factors governing the relation of tree size to net stumpage values; and the application of these principles and methods in the solution of actual case problems. Prerequisites: Forestry 211-212 or equivalent. 3 s.h. (w)

MR. WACKERMAN

320. SEMINAR IN SILVICULTURE.—Arranged primarily to give graduates of other schools of forestry special training in the silviculture of the forests of the South. All men taking this course should also register for Forestry 266. Prerequisite: At least on course in silviculture. 3 s.h. (w)

MR. KORSTIAN

322. SOIL CLASSIFICATION AND MAPPING.—Classification of soils as natural bodies. Mapping of soils, land use classes and forest site classes. Ordinarily one week of field study will be made of soils in either the coastal plain or mountains. Prerequisites: Forestry 261. 2 s.h. (w)

MR. RALSTON

323-324. ADVANCED FOREST PATHOLOGY.—Advanced study and research on life histories and control of diseases of forest trees to meet individual needs of graduate students. Prerequisites: plant physiology and forest pathology. Credits to be arranged.

MR. JOHNSON

326. ADVANCED FOREST SOILS.—Interrelations of the physical, chemical, and biological characteristics of forest and range soils. Prerequisites: analytical chemistry and Forestry 261. 3 s.h. (w)

MR. RALSTON

342. ADVANCED FOREST MANAGEMENT.—Examination and analysis of techniques employed in the management of industrial and public forests, particularly in the South; discussion of problems of large scale intensive forest management. One week is spent in field study in the South Atlantic Coastal Plain. Prerequisites: Forestry 267, 279, and 281 or equivalents. 2 s.h. (w)

MR. CHAIKEN

351-352. ADVANCED PHYSIOLOGY OF FOREST TREES.—Advanced study and research on problems in physiology of forest trees to meet individual needs of graduate students. Prerequisites: plant physiology and plant ecology and silvics. Credits to be arranged.

MR. KRAMER

356. SEMINAR IN FOREST ECONOMICS.—Examination and discussion of the application of economic concepts in forestry, the potential contribution of economic analysis to private and public forest management; current research in forest economics. Prerequisites: Forestry 277 and 279 or consent of the instructor; advanced courses in economics and economic theory are desirable. 2 s.h. (w)

MR. STOLTENBERG

357-358. RESEARCH IN FORESTRY.—Credits to be arranged. Students who have had adequate training may do research under direction of members of the Faculty in the branches of forestry indicated under courses 301-302 with the same prerequisites as thereunder noted. Each branch to bear the same letter designation as under Courses 301-302.

THE SUMMER SESSION

First term begins June 14, 1955

Second term begins July 26, 1955

Admission



THE general requirement for admission to the Summer Session is graduation from an accredited secondary school or its equivalent. Rejection of a student's application for admission to one of the University's Colleges or Schools does not preclude admission of that student to the Summer Session as a special or unclassified student.

Admission to specific courses offered in the Summer Session is governed by the student's academic status (freshman, sophomore, junior, senior, graduate, special or unclassified) and by the prerequisites of the course in question. Regulations governing admission and instruction as to procedure are given in the *Bulletin of the Summer Session*.

Registration



CLASSES BEGINNING JUNE 15. All Summer Session students whose classes begin on June 15, Term I, who *do not* complete registration in the Summer Session Office 119 Allen Building, on or before June 7 *must* present themselves at general registration in the new gymnasium on June 14 to register.

CLASSES BEGINNING JULY 27. All Summer Session students who wish to register for courses offered during Term II or for research during Term II may register in the Summer Session Office on July 12 through July 21. All students who *do not* register for second term during this period *must* register in the Summer Session Office, 119 Allen Building on July 26.

CLASSES BEGINNING ON OTHER DATES. All Summer Session students registering for courses beginning on dates other than those specified above must complete registration in the Summer Session Office *before* the date on which their classes begin. *Registration on the day on which classes are scheduled to begin will be considered late registration.*

For additional regulations relating to registration see the *Bulletin of the Summer Session*. This bulletin contains information also on University Services, Student Activities, Resources of the University, Special Conferences and Courses, Student Aid, Scholarships, Dormitory Accommodations, Room Rates, and Medical Care.

Financial Information, Living Accommodations, and Medical Care



Fees

The University Fee:

Covering registration, tuition, and medical care.....	\$12.00 per semester hour
Teachers in full-time service in Elementary and Secondary Schools.....	6.00 per semester hour
Registered Nurses enrolled in Nursing Education courses	6.00 per semester hour

Laboratory Fees: (These where applicable are in addition to the University Fee.)

The School of Spanish Studies.....	\$15.00
Marine Laboratory.....	10.00

Fees Replacing University Fee:

Medical Mycology	\$50.00
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Master's Degree Summer Session Fee:

- A candidate for the Master's degree who completes in the Summer Session 15 or more semester hours required for the degree and who finishes the work in the Summer Session pays a degree fee of.....\$25.00
- A Master's degree candidate who is not required to pay the fee under Item 1 above, but who takes a thesis examination during the Summer Session, is required to pay a degree fee of.....\$10.00
- A Master's degree candidate who, in the fall or spring semesters, completes 15 or more semester hours required for the degree and who finishes the work in the Summer Session without a thesis examination is not required to pay the degree fee.

Auditing Fees (See p. 22 for definition):

1. Students registered for a full course program may audit non-laboratory courses (with the permission of the Director) at no extra charge.
2. Students carrying less than a full course program may be granted permission to audit a course or courses on payment of half the University fee per semester hour audited.....\$6.00 per s.h.

Late Registration Fee:

Students who fail to register prior to the first class day of a given course will pay an extra fee of.....	5.00
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Fee for Course Changes:

Course changes other than those required by the University will be made only on payment of an extra fee of.....	1.00
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Fee for Make-up Final Examination:.....

3.00

Refund of Fees:

- a. When applications for withdrawal are received by the Director of the Summer Session before the close of registration on registration day, full fees will be refunded.
- b. When applications for withdrawal are received by the Director of the Summer Session during the first four class days of a given term 80 per cent of the fees will be refunded.
- c. When applications for withdrawal are received by the Director of the Summer Session after the fourth class day there will be no refund of fees.

Academic Regulation



Kinds of Course Enrollment

SUMMER SESSION courses may be taken for "credit" or for "non-credit" or may be "audited." A student's program may be exclusively in one of these categories, or may combine any two of them or all three. Students taking a full or partial program for "credit" may enroll as auditors or as non-credit students in any number of additional courses.

CREDIT. The Summer Session term "credit" does not mean degree credit at Duke University unless the student has been admitted as a degree candidate by one of the colleges or schools of the University. A student taking a course for credit is expected to do all the work required and to take the final examination, and he will receive a grade. G.I. Bill benefits are available only to those veterans who enroll for credit.

NON-CREDIT. "Non-credit" enrollment is available to the student who wishes the privilege of participating in class discussions, exercises, and laboratory assignments but does not wish to take the examinations either mid-term or final. A "non-credit" student may do as much of the work of the course as he desires, but he may not take the final examination and he will not receive a grade. Full fees of \$12 per semester hour are required in "non-credit" enrollment.

AUDIT. An auditor is entitled to listen to lectures and class discussions, but he may not participate in discussions or take examinations. Students may not enroll as auditors in laboratory courses. A student carrying a full program for credit may be given permission to audit as many courses as he desires without additional fees. Students carrying less than a full program for credit may secure permission to audit but are required to pay the auditing fee of \$6 per semester hour.

Eligibility for Course Enrollment

Courses numbered 1-49 are primarily for freshmen, or freshmen and sophomores. Courses numbered 50-99 are ordinarily for sophomores, or sophomores and juniors. Courses numbered 100-199 are designed for juniors and seniors. Courses numbered 200-299 are planned for

seniors and graduates. Courses numbered from 300 up admit graduate students only. Courses numbered from 200 up are limited in enrollment to 25 students.

Length of Course and Credits Allowed

The Summer Session courses are of the same quality and credit value as courses in the regular semester. Credit earned in the Summer Session is in terms of semester hours. The majority of Summer Session courses carry 3 semester hours credit and require six weeks in residence. A limited number of basic courses in the sciences run for four weeks (Chemistry, Geology, Zoology) or five weeks (Physics). Introductory foreign language courses are given intensively on a three-week basis, as are a limited number of courses in Nursing Education.

The Normal Course Program

The normal and maximum program for a six-week term is 6 semester hours. The 4 and 5 semester hour courses in the sciences run for four and five weeks respectively and one such course constitutes a full course program.

Grading

Only a student taking a course for credit will receive a grade. The grade given represents the quality of the work done in the course.

PASSED.

Undergraduate Grades

A — excellent

B — good

C — average

D — poor but passing

Graduate Grades

E — exceptional

G — good

S — satisfactory

FAILED. A grade of F indicates that the student has failed the course, and in order to receive credit for the course he must repeat the work in class.

INCOMPLETE. A grade of I may be reported by the instructor if for any reason he is unable to report the final grade at the regular time. Incomplete courses must be completed before the close of the succeeding semester; otherwise the I is recorded as F, and the course must be repeated in class if the student is to receive credit for it.

ABSENT FROM FINAL EXAMINATION. The grade X indicates that the student was absent from the regularly scheduled examination.

Graduate Study in the Summer Session



A STUDENT who holds a bachelor's degree and who desires to take graduate courses for professional or other reasons but not for the purpose of earning an advanced degree should apply to the Director of the Summer Session for admission as a special or unclassified student. Credit earned while the student is so enrolled does not count as credit toward an advanced degree.

A student who wishes to work for an advanced degree must apply for admission to the Graduate School of Arts and Sciences. Upon securing admission the student must then register during the official registration period with *both* the Summer Session and the Graduate School of Arts and Sciences.

In order that application to the Graduate School for summer work be given due consideration, the student should submit all required documents to the Dean of the Graduate School by the date of June 1 preceding the first term, and by the date of July 10 preceding the second term of the Summer Session.

Information on the requirements and procedures for admission to the Graduate School is given in the *Bulletin of the Summer Session* and in the *Bulletin of the Graduate School of Arts and Sciences*.

The Ph.D. and Ed.D. Degrees

STUDY FOR THE PH.D. DEGREE: Students who are interested in working toward a Ph.D. degree should consult the detailed requirements as outlined in the *Bulletin* of the Duke University Graduate School of Arts and Sciences. Of the three years required as minimum residence, not more than one year can be earned in Summer Sessions. Full-time enrollment for one six-week term is counted as one-fifth of an academic year.

STUDY FOR THE ED.D. DEGREE: Students who are interested in working toward an Ed.D. degree should consult the detailed statement in the *Bulletin* of the Graduate School of Arts and Sciences. For specific information regarding residence and programs for the Ed.D. degree, please write to the Director of Graduate Studies, Department of Education.

Requirements for the Master of Arts Degree

LANGUAGE REQUIREMENTS: The candidate for the A.M. degree must have a reading knowledge of at least one foreign language. (The several departments reserve the right to specify which foreign languages are acceptable.) Evidence of such knowledge may be furnished in either of two ways: (1) by successfully passing an examination, officially conducted by the appropriate foreign language department at Duke University, or (2) by a transcript showing the completion of the third college year of one language, or the second college year of each of two acceptable foreign languages.

If the student must take the examination to satisfy this requirement, he may request—should he feel well qualified—the language examination required of candidates for the Ph.D. degree. By passing this examination, he may satisfy the requirements for both degrees at one time.

MAJOR SUBJECT: As a prerequisite to graduate study in his major subject, the student must have completed a *minimum* of 12 semester hours of approved college courses in that subject, and 12 additional semester hours in that subject or in related work. Since some departments require more than 12 semester hours, the student should read carefully the special requirements listed by his major department, which are included as headnotes to the course offerings in the *Bulletin* of the Graduate School.

In his graduate work, the student, in order to complete the course requirements for the A.M. degree, must present acceptable marks for 24 semester hours of graduate courses, of which at least 12 semester hours must be in the major subject. In addition to these he must present a thesis, which carries a credit of 6 semester hours. Thus, his earned credit for the degree totals 30 semester hours.

MINOR SUBJECT: Beyond the work for his major, the student must take a minimum of 6 semester hours in a minor department, the department of the minor to be approved by his major department. The remaining 6 semester hours of the necessary 24 may be taken in either of these departments, or in another approved by the major department and by the Dean of the Graduate School.

TRANSFER OF CREDITS: Under certain circumstances a maximum credit of 6 semester hours may be allowed for graduate courses completed elsewhere. The acceptance of credit up to this amount, however, will not reduce the minimum period of full-time registered residence at Duke University. In no case will credit be allowed for extension or correspondence courses.

With the approval both of the student's major department and the Dean of the Graduate School, a student who is granted such trans-

fer credit may be permitted to register for as much as 12 semester hours of thesis research instead of the usual 6 semester hours. Or he may be permitted to fill out his schedule with as much as 6 semester hours of further undergraduate training or 6 semester hours of required language courses on the undergraduate level.

CANDIDACY FOR THE MASTER OF ARTS DEGREE: In order to be considered a candidate for a Master's degree (A.M., M.Ed., M.A.T.) a student must (1) have received the approbation of the major department, or in the case of the M.A.T., of his committee, (2) have made passing grades in all his courses during his first semester (If he registers for fewer than 12 semester hours of graduate courses during his first semester, or if he is enrolled in the Summer Session, he must make passing grades in his initial 12 hours of graduate courses.), (3) have made a grade of "G" or "E" on at least 3 semester hours of this work.

If he does not fulfill these conditions on the initial semester hours, but does better work, signified by a substantial number of "G's" or "E's" in a subsequent term, he may be granted permission then to re-apply for candidacy.

TIME LIMITS FOR COMPLETION OF THE MASTER OF ARTS DEGREE: The candidate for the A.M. degree must complete all requirements within a period of six calendar years from the date of his initial registration. Credits earned over a longer period of time cannot be credited toward a degree.

THE THESIS FOR THE MASTER OF ARTS DEGREE: The thesis for the A.M. degree should demonstrate the student's ability to collect, arrange, interpret or report pertinent material on his special research problem. Although a publishable document is not required, the thesis must be written in a literate style, and should exhibit the student's competence in scholarly methods and procedures.

REGULATIONS AND PROCEDURES: On or before July 13 or August 1 (see calendar) of the summer in which it is expected the degree will be conferred, the student must file the final title of the thesis with the Dean of the Graduate School. Official blanks are provided for this purpose.

Four bound, typewritten copies of the thesis must be submitted, in approved form, to the Dean of the Graduate School at least one week before the date of the thesis examination. The copies will then be distributed to the several members of the examining committee.

THE EXAMINING COMMITTEE AND THE EXAMINATION: After consultation with the professor who has directed the thesis, the Dean of the Graduate School appoints an examining committee composed of the director of the thesis and two other members of the Graduate Faculty. The candidate appears before this com-

mittee for an examination, which lasts for about one and one-half hours. Subject matter is usually restricted to the thesis and to major field.

If the candidate successfully passes his examination, the examining committee certifies to this fact by signing the title page of the thesis. The candidate then returns the original and one carbon copy of the thesis to the Dean of the Graduate School for deposit in the University Library.

Requirements for the Master of Education Degree

PREREQUISITES: The degree of Master of Education is granted ordinarily only to teachers or to others engaged in educational work.

Before a student is admitted to graduate study for this degree, he should have completed, on the undergraduate level, a minimum of 18 semester hours of approved work in Education, including courses in Educational Psychology, and courses in the History of Education, Educational Sociology, or School Administration.

Early in the program of his work, the student must pass two examinations: (1) a test of general ability, and (2) a test designed to determine his ability to write acceptable English. The student, before the degree is conferred, must also present evidence testifying to at least two years of teaching experience, gained either before his admission to course work, or concurrently with it.

REQUIREMENTS FOR THE DEGREE: The M.Ed. degree may be earned either with or without the presentation of a thesis.

WITHOUT THESIS: Students who elect this plan must present a total of 30 semester hours. Twelve hours of this required work must include the *four* basic courses: Education 204, 210, 217, and 235.* If a student, by examination, can demonstrate his competency in the subject matter of two of these courses, he may be granted exemption from the required work in these courses. In no case may he claim exemption from more than two.

Other requirements are: a departmental major (i.e., in Nursing Education, Elementary Education, Public School Administration, Public School Supervision, or Secondary Education) of at least 12 semester hours, and a minor of at least 6 semester hours in a department other than Education. Toward the end of his residence the student must pass a comprehensive examination on his departmental major and on the content of the four basic courses. Permission to take such examinations must be obtained from the Director of Graduate Studies of the Department of Education, and a notice of intention must be

* *Note:* In the Summer Session of 1955, Education S210 and S217 will not be offered.

filed with him at least three weeks before the announced dates of the examinations.

WITH THESIS: Students who elect this plan are permitted to substitute a thesis for 6 semester hours of the required course work. The student must present a thesis subject approved by the professor who is to direct it, by the Director of Graduate Studies in Education, and by one other member of the staff of the Department of Education. Two of the three members of the approving committee must be permanent members of the Duke University Graduate Faculty. The title of the thesis must be filed with the Dean of the Graduate School at the same time as the titles for the A.M. theses (see p. 35).

In addition to the thesis, the student must present 24 semester hours of course credit. Of these, 6 semester hours must be earned in *two* of the basic courses in the Department; Education 204, 210, 217, or 235. Of the remaining 18 semester hours, 6 semester hours must constitute a minor taken outside of the Department of Education; at least 12 semester hours must be taken in the student's departmental major.

The regulations regarding submission of typed copies of the thesis and the thesis examination are the same as those for the A.M. degree (see p. 398).

CANDIDACY FOR THE MASTER OF EDUCATION DEGREE: In order to be considered a candidate for a Master's degree (A.M., M.Ed., M.A.T.) a student must (1) have received the approbation of the major department, or in the case of the M.A.T., of his committee, (2) have made passing grades in all his courses during his first semester (If he registers for fewer than 12 semester hours of graduate courses during his first semester, or if he is enrolled in the Summer Session, he must make passing grades in his initial 12 hours of graduate courses.), (3) have made a grade of "G" or "E" on at least 3 semester hours of this work.

If he does not fulfill these conditions on the initial semester hours, but does better work, signified by a substantial number of "G's" or "E's" in a subsequent term, he may be granted permission then to re-apply for candidacy.

TIME LIMITS FOR COMPLETION OF THE MASTER OF EDUCATION DEGREE: The candidate for the M.Ed degree must complete all requirements within a period of six calendar years from the date of his initial registration. Credits earned over a longer period of time cannot be credited toward a degree.

Requirements for the Master of Arts in Teaching Degree

PREREQUISITES: The degree of Master of Arts in Teaching is designed for both teachers in service and recent graduates of Liberal Arts colleges who wish to enter public school teaching.

A student should normally have completed a minimum of 12 semester hours in his proposed major subject and an additional 12 semester hours in the major or related subjects. In the event that a student wishes to undertake a graduate major different from the undergraduate major, the prerequisites are possible of modification upon the recommendation of the student's committee and the approval of the Dean of the Graduate School.

PROGRAMS FOR THE DEGREE: One of two programs may be arranged, in consultation with the student's committee: (1) A major in Education of 18 to 24 semester hours and 6 to 12 semester hours in non-education courses. (2) A major in non-education courses of 18 to 24 semester hours and 6 to 12 semester hours in Education. In both programs a minimum of 30 semester hours is required.

The non-education courses are to be taken in one or more subjects ordinarily taught in the secondary schools. The amount and distribution of this work will be determined by the needs of the individual student.

The Master of Arts in Teaching may be earned with or without the presentation of a thesis. If a student, in consultation with his committee, elects to present a thesis, 6 semester hours of the total of 30 semester hours required will be allotted to thesis research. He will then be required to complete 24 semester hours of course credits. The regulations concerning the writing and submission of the thesis, and the examination of it, are the same as those governing the thesis for other masters' degrees offered in the Graduate School.

THE COMMITTEE: Each candidate for the degree will be assigned a committee, appointed by the Dean of the Graduate School, to plan his program of study.

This committee will consist of three members, at least one of whom will be from the Department of Education, and at least one from another department. The chairman of the committee will normally be chosen from the department of the major.

Courses of Instruction



Minimum Enrollment Required for Courses

ALL courses are offered subject to minimum enrollments. The University reserves the right to withdraw undergraduate courses in which fewer than twelve students enroll, senior-graduate courses numbered 200-299 in which fewer than ten students enroll, and graduate courses and seminars numbered 300 or above in which fewer than six students enroll. In withdrawing a course, the University attempts to avoid undue hardships on students. Sometimes, therefore, courses are offered in spite of small enrollments. Courses not listed will be given when a demand develops and an instructor is available.

Department Officers and Regulations

Departments offering Summer Session programs are listed alphabetically. Under each department is given the name of the chairman and the name of the director of graduate studies. Where departments have set up special regulations for admission to candidacy for the Master's degree, these are included.

Key to Room Assignments for Classes

The description of each course indicates the building and room in which the course is scheduled and the hour at which it will be given. For example: Economics S51 is scheduled as 53.229. This means Building 53 Room 229. The key to building numbers is given in the chart.

BOTANY

PROFESSOR HENRY J. OOSTING, CHAIRMAN—121 SCIENCE BUILDING (EAST CAMPUS);

PROFESSOR PAUL J. KRAMER, DIRECTOR OF GRADUATE STUDIES—

04 BIOLOGY BUILDING (WEST CAMPUS)

For admission to candidacy for the Master's degree in Botany, students must have completed a minimum of eighteen semester hours of biological science, including six semester hours of botany in courses numbered above 100. Students who have not yet had the minimum eighteen hours, however, may enter higher courses by permission of the instructor, if he is convinced that they can carry the work for undergraduate credit, and may count such work toward the eighteen hours necessary for candidacy.

FIRST TERM

S225. SPECIAL PROBLEMS.—Hours to be arranged. STAFF

S359. RESEARCH.—Hours to be arranged. STAFF

FIRST TERM (Marine Laboratory at Beaufort, North Carolina)

S205. MARINE MICROBIOLOGY.—Culturing, population analyses, and ecological significance of marine microorganisms with special reference to bacteria and unicellular algae. Prerequisite: One year of botany or equivalent. 6 s.h.

Mr. HUMM

S359. RESEARCH.—Hours to be arranged. Mr. HUMM

SECOND TERM

S225. SPECIAL PROBLEMS.—Hours to be arranged. STAFF

S359. RESEARCH.—Hours to be arranged. STAFF

CHEMISTRY

PROFESSOR J. H. SAYLOR, CHAIRMAN—115 CHEMISTRY BUILDING (WEST CAMPUS);

PROFESSOR CHARLES K. BRADSHER, DIRECTOR OF GRADUATE STUDIES—

124 CHEMISTRY BUILDING (WEST CAMPUS)

All classes in Chemistry, Term I, will begin on June 28 and continue through July 23. All classes in Chemistry, Term II, will begin on July 27 and continue through August 19. Students who wish to avoid paying a late registration fee must have their registration completed in advance of these dates. For registration dates see *General Registration* on Page 19 of this *Bulletin*.

FIRST TERM

S1. GENERAL INORGANIC CHEMISTRY.—Lectures, recitations, and laboratory work on the elementary principles of chemistry and on the occurrence, preparation, properties, and uses of the elements and their compounds. Recitation daily, 8:00-9:00, 6.112; laboratory daily, 9:00-12:00, 6.108; lecture daily, 12:00-1:00, 6.116. 4 s.h.

Mr. STROBEL

S61. FUNDAMENTALS OF ANALYTICAL CHEMISTRY.—A study of the relations of electrolytes in solution and of chemical equilibrium illustrated by laboratory experiments involving the techniques of gravimetric, volumetric, and colorimetric analysis. Prerequisites: Chemistry 1-2 and Mathematics 6 or equivalent. Lecture or recitation daily, 8:30-10:00, 6.122; laboratory daily, 11:00-12:30 and 2:00-5:00, 6.208. 4 s.h.

Mr. SAYLOR

S151. ORGANIC CHEMISTRY.—An introduction to the study of carbon compounds. Compounds of the aliphatic series form the basis of lectures, discussions and laboratory experiments. Prerequisite: Chemistry S61. Recitation daily, 8:00-9:00, 6.01; laboratory daily, 9:00-12:00, 6.301; lecture daily, 12:00-1:00, 6.01. 4 s.h.

Miss BROWN

S275. THESIS RESEARCH.—Research in the fields of physical, analytical, inorganic, or organic chemistry. Open to those students whose research programs for the A.M. and Ph.D. degrees have been approved by the department and by one of the instructors in charge of the course. Schedule to be arranged. (Not more than one semester hour of credit per week for full-time schedule or one semester hour each two weeks for half-time schedule.) 2 to 8 s.h. Available Term I and II.

STAFF

SECOND TERM

S2. GENERAL INORGANIC CHEMISTRY.—A continuation of S1. Prerequisite: Chemistry S1. Recitation daily, 8:00-9:00, 6.112; laboratory daily, 9:00-12:00, 6.108; lecture daily, 12:00-1:00, 6.116. 4 s.h.

Mr. WILDER

S152. ORGANIC CHEMISTRY.—A study of compounds of the aromatic series and of carbohydrates and proteins. Prerequisite: Chemistry S151. Recitation daily, 8:00-9:00, 6.01; laboratory daily, 9:00-12:00, 6.301; lecture daily, 12:00-1:00, 6.01. 4 s.h.

Mr. BRADSHER

ECONOMICS

PROFESSOR CALVIN B. HOOVER, CHAIRMAN; PROFESSOR FRANK T. DEVYVER, EXECUTIVE
OFFICER OF THE DEPARTMENT—203H SOCIAL SCIENCE BUILDING (WEST CAMPUS);
PROFESSOR R. S. SMITH, ACTING DIRECTOR OF GRADUATE STUDIES—
203E SOCIAL SCIENCE BUILDING (WEST CAMPUS)

FIRST TERM

S51. PRINCIPLES OF ECONOMICS.—A short course in the essential principles of economic science. (This course will not count as a part of the minimum economics requirements for graduation until the equivalent of S52 has been completed. Credit for Ec. S51 will not be given until Ec. 52 has been completed.) 11:00-12:20. 53.229. 3 s.h. Mr. MCKENZIE

S57. PRINCIPLES OF ACCOUNTING.—Elementary principles of single proprietorship, partnership, and corporation accounting. June 14-July 1. 7:40-12:20. 10.212. 3 s.h. Mr. SHIELDS

S58. PRINCIPLES OF ACCOUNTING.—A continuation of Economics S57. July 5-23. 7:40-12:20. 10.212. 3 s.h. Mr. SHIELDS

S149. INTERMEDIATE ECONOMICS.—This course develops methods of economic analysis beyond the principles level. Major emphasis is laid on the determination of price and distribution of income. These problems are studied in the context of both competitive and monopolistic market structures. 7:40-9:00. 53.221. 3 s.h. Mr. MCKENZIE

S168. MARKETING.—The topics covered in this course include the economic importance of markets and the marketing system; marketing functions; organization and methods; price policies; finance; speculation; market research and the planning of marketing activities; co-operative marketing; criticism of marketing and means for improvement; and regulation. 11:00-12:20. 53.221. 3 s.h. Mr. LANDON

S171. ADVANCED ACCOUNTING.—Advanced accounting theory and practice applied to the managerial problems of valuation and operation in corporations, consolidations, mergers, and liquidations. Open to students who have completed Accounting 57-58. June 14-July 1. 7:40-12:20. 10.214. 3 s.h. Mr. BLACK

S172. ADVANCED ACCOUNTING.—A continuation of Economics S171. July 5-23. 7:40-12:20. 10.214. 3 s.h. Mr. BLACK

S218. BUSINESS CYCLES.—A study of the various types of cyclical movements in industry, with special emphasis on cycle theory and methods of controlling or modifying business cycles. 9:20-10:40. 53.221. 3 s.h. Mr. HUMPHREY

S232. THE ECONOMIC HISTORY OF UNITED STATES.—A study of the agricultural, industrial, commercial, and financial progress of the United States from colonial times to the present day. 7:40-9:00. 53.307. 3 s.h. Mr. SMITH

S318X. THESIS SEMINAR.—Hours to be arranged. MESSRS. SMITH, HUMPHREY

SECOND TERM

S52. PRINCIPLES OF ECONOMICS.—A continuation of Economics S51, emphasis on economic problems. 11:00-12:20. 53.225. 3 s.h. Mr. DEWEY

S105. INDUSTRIAL MANAGEMENT.—A study of the organization and management of industrial production, with emphasis upon the principles governing location and plant design, the planning and control of materials and methods, and general price policies. 9:20-10:40. 53.225. 3 s.h. Mr. JOERG

S143. CORPORATION FINANCE.—Principles and problems in the financial organization of corporations; the study of corporate securities, the management of capital, the distribution of earnings; industrial combinations; insolvency and re-organization. (Though not a prerequisite, Economics 57-58, Principles of Accounting, or Economics 60. General Accounting, are recommended to students electing this course.) 7:40-9:00. 53.229. 3 s.h. Mr. JOERG

S155. LABOR PROBLEMS.—An examination of present-day labor problems followed by an intensive study of methods used by employers and workers in meeting those problems. 11:00-12:20. 53.226. 3 s.h. **MR. CARTTER**

S257. DYNAMICS OF THE LABOR MOVEMENT.—A study of the forces which have shaped the growth of the labor movement. Special emphasis on the origin of modern trade unionism, relating its growth with Western philosophic developments, and with the changing economic and social structure of society in Europe and America. 7:40-9:00. 53.221. 3 s.h. **MR. CARTTER**

S318X. THESIS SEMINAR.—Hours to be arranged.

MR. CARTTER

EDUCATION

PROFESSOR WILLIAM H. CARTWRIGHT, CHAIRMAN—1C WEST DUKE BUILDING (EAST CAMPUS);

PROFESSOR EDWARD C. BOLMEIER, DIRECTOR OF GRADUATE STUDIES—

1C WEST DUKE BUILDING (EAST CAMPUS)

For admission to candidacy for the Master of Arts (A.M.) degree with major in Education, or for the Master of Education (M.Ed.) degree, students must, in addition to meeting the general requirements for admission to the Graduate School, meet the following specific requirements: Credit for (1) eighteen semester hours of acceptable prior work in Education and (2) twelve semester hours of acceptable prior work in a minor field. If Psychology, Sociology, Economics, or Political Science is chosen for the minor, six semester hours of work completed after entering the Junior year in college will be accepted.

The degree of Master of Arts is available in the divisions of Public School Administration, Public School Supervision, Secondary Education, Elementary Education and Educational Psychology. Every candidate for the Master of Arts degree in the Department should elect at least twelve semester hours in one of these divisions in which he plans to write his thesis and the remainder of his work, including the six semester hours in his minor, with the approval of the proper division adviser. The degree of Master of Education is available in the divisions of Public School Administration, Public School Supervision, Secondary Education, and Elementary Education. Dr. Bolmeier and Dr. Stumpf are advisers to students in School Administration and in Supervision; Dr. Carr, Dr. Petty, and Dr. Rudisill are advisers in Elementary Education; Dr. Bolmeier, Dr. Cartwright and Professor Childs are advisers in Secondary Education; and Dr. Weitz is adviser in Educational Psychology. Candidates for the Master of Arts, Master of Education, or Master of Arts in Teaching degree should read with special care the regulations of the Graduate School as set forth on pages 32-38. Candidates for the Master of Arts in the field of guidance should consult the special brochure on guidance available from the Dean of the Graduate School.

FIRST TERM

S84. SOCIAL FOUNDATIONS OF EDUCATION.—Survey of the place and function of education and an understanding of the school as a social institution. 11:00-12:20. 53.312. 3 s.h. **MR. STUMPF**

S88. EDUCATIONAL PSYCHOLOGY: LEARNING AND MEASUREMENT.—This course and Education 118 constitute a general introduction to the field of Educational Psychology. This course deals with (1) the psychology of learning, including: the nature of the learning process, general principles or laws of learning, the course of learning and forgetting, factors influencing efficiency in learning and retention and the transfer of training; and (2) measurement, including: the basic concepts in the measurement of intelligence, standardized achievement tests, the extent and significance of individual differences in ability and performance. Opportunity will be afforded for examination and study of a variety of tests of intelligence and achievement. **MR. GEHMAN**

S88.1. 7:40-9:00. 53.233. 3 s.h.

S88.2. 9:20-10:40. 53.226. 3 s.h.

S201. TEACHING AND SUPERVISION OF ARITHMETIC.—This course gives special attention to the number system, the fundamental operations (with whole numbers, fractions, and decimals), percentage and measurements. The course will consider the meaning theory, methods of teaching, problem solving, evaluation, practice and drill, and selection and gradation of arithmetical contents. The course is designed for teachers and supervisors in the elementary school. 7:40-9:00. 53.125. 3 s.h.

MR. PETTY

S203. PRINCIPLES OF SCHOOL ADMINISTRATION.—The fundamental facts and procedures of school administration, an analysis of the problems and policies of the organization and direction of a local school system, and the functions of the various school officials. Prerequisites: Education 103 and 88, or six semester hours of equivalent work in education. 9:20-10:40. 53.327. 3 s.h.

MR. STUMPF

S204. THE SCHOOL AS AN INSTITUTION.—The place of the school in society, its history and philosophy. Selected problems guiding the reading of students will be discussed in class. This is one of the courses required for the Master of Education degree without thesis. Open to graduate students only. 7:40-9:00. 53.316. 3 s.h.

MR. BOLMEIER

S211. THE PROBLEM CHILD (also Psychology S211).—Study of problem behavior and adjustment in children with emphasis on the causes and treatment of conduct and neurotic disorders of the maladjusted child. Particular attention will be paid to mental hygiene principles in the handling of problem children in school and home. 11:00-12:20. 53.125. 3 s.h.

MR. BORSTELMANN

(See also Psychology S232, PERSONALITY AND PHYSICAL HANDICAP, p. 57.)

S226. TEACHING READING IN THE ELEMENTARY SCHOOL.—A study of the nature of the reading process and of principles, methods, and materials for the development of effective reading attitudes and skills as applied both to developmental and remedial programs. The course provides practice with elementary-school children suffering reading retardation, including testing, diagnosis, and daily remedial teaching during the six-week period. 11:00-12:20. A.2F. 3 s.h.

MISS RUDISILL

S228. IMPROVEMENT OF INSTRUCTION IN THE SOCIAL STUDIES.—An advanced treatment of curriculum, methods, and materials in the social studies. Individuals will concentrate on subjects and grade levels of their choice. 9:20-10:40. 53.234. 3 s.h.

MR. MCLENDON

S232. SUPERVISION OF INSTRUCTION.—A survey of supervision as a means of improving instruction and adapting the curriculum to the learner and to community needs. 7:40-9:00. 53.226. 3 s.h.

MR. MCLENDON

S234. SECONDARY SCHOOL ORGANIZATION AND ADMINISTRATION.—This course is designed especially for principals, teachers, and other prospective members of the secondary-school staff. The scope of secondary education is considered to encompass junior high school, regular high school, senior high, and junior college. Special treatment is given to the problems of internal organization and management. 11:00-12:20. 53.234. 3 s.h.

MR. BILLETT

S235. THE NATURE, FUNCTION AND ORGANIZATION OF THE CURRICULUM.—A study of the fundamental bases for the curriculum, how the curriculum functions in the school program, and the techniques of curriculum construction. This is one of the courses required for the Master of Education degree without thesis. Open to graduate students only. 9:20-10:40. 53.316. 3 s.h.

MR. BILLETT

S236. TEACHING READING IN THE SECONDARY SCHOOL.—A study of the nature of the reading process and of principles, methods, and materials for the development of effective reading attitudes and skills as applied both to developmental and remedial programs. For secondary-school teachers of all subjects who wish to improve the reading and study habits of their students. 9:20-10:40. A.2F. 3 s.h.

MISS RUDISILL

S243. PERSONALITY DYNAMICS.—A study of personality structure and dynamics with emphasis upon the implications for counseling and instruction. Prerequisite: 6 hours of psychology or educational psychology. 7:40-9:00. 53.314. 3 s.h. **MR. WEITZ**

S246. THE TEACHING OF MATHEMATICS.—This course deals with such topics as aims, curriculum, course and lesson planning, and classroom procedure for teaching secondary-school mathematics. 7:40-9:00. 53.312. 3 s.h. **MR. REYNOLDS**

S253. SCHOOL LAW.—The primary purpose of this course is to familiarize prospective school administrators and teachers with the legal features of school organization and administration. Although some attention is given to constitutional and statutory provisions, the main emphasis is upon court decisions relating to education. Students are expected to select appropriate problems in school law for intensive study. 9:20-10:40. 53.312. 3 s.h. **MR. BOLMEIER**

S258. EDUCATIONAL MEASUREMENTS.—A critical study of the principles and techniques involved in measurement in education, with opportunity for individual research. Prerequisite: twelve semester hours in the Department, including a course in educational psychology. 11:00-12:20. 53.316. 3 s.h. **MR. WEITZ**

S276. THE TEACHING OF HIGH-SCHOOL SCIENCE.—Discussion, lectures and collateral reading, related to such topics as aims, tests, curriculum, classroom and laboratory procedure, field trips, course and lesson planning for secondary-school science. 9:20-10:40. 53.328. 3 s.h. **MR. REYNOLDS**

SECOND TERM

S118. EDUCATIONAL PSYCHOLOGY: PSYCHOLOGICAL DEVELOPMENT.—This course traces the psychological development of the individual from infancy to maturity. The principal topics considered are: the interdependence of hereditary and environmental factors in development, the nature of the developmental process, the establishment of the early basic patterns of behavior, changes and conditions producing these changes throughout childhood and adolescence to maturity, and the origin and treatment of minor behavior disorders. To the degree practicable, students will observe children in typical and atypical situations as a means of securing concrete data on the problems treated in the course. Not open to students who have had Psychology 121 or 126. Prerequisite: three semester hours in psychology or educational psychology. 9:20-10:40. 53.221. 3 s.h. **MR. ECKHAUSER**

S205. CURRICULUM PROBLEMS IN SECONDARY EDUCATION.—A consideration of the aims and objectives of secondary school subjects, emphasizing practical problems of curriculum-making in the high school. 7:40-9:00. 53.125. 3 s.h. **MR. CHILDS**

S240. EDUCATIONAL AND OCCUPATIONAL INFORMATION.—A study of the sources of occupational and educational information: methods of securing and organizing occupational information; methods of providing vocational and educational information to students through career days, college conferences, class activities, and individual counseling; methods of making job analyses and community occupational surveys. 7:40-9:00. 53.316. 3 s.h. **MR. COLVER**

S241. PRINCIPLES OF GUIDANCE.—An historical survey of the philosophies of guidance; a study of the interrelationships between instruction, administration, and guidance in education. Prerequisites: 6 hours of psychology or educational psychology. 9:20-10:40. 53.125. 3 s.h. **MR. COLVER**

S267. THE TEACHING OF SCIENCE IN THE ELEMENTARY SCHOOL.—This course deals with such topics as aims and values, curriculum materials, classroom procedures, lesson planning, and grade placement for science teaching in the elementary school. 7:40-9:00. 53.312. 3 s.h. **MR. REYNOLDS**

S285. AUDIO-VISUAL AIDS IN EDUCATION.—The aims and psychological bases of audio-visual materials in the classroom. Attention to such materials as charts, filmstrips, flat pictures, maps, models, motion pictures, radio, records, slides, and television. 11:00-12:20. 53.125. 3 s.h. **MR. ECKHAUSER**

NURSING EDUCATION

A DIVISION OF THE DEPARTMENT OF EDUCATION

MISS THELMA INGLES, R.N., DIRECTOR OF THE DIVISION OF
NURSING EDUCATION—HANES HOUSE (WEST CAMPUS)

FIRST TERM

S84N. SOCIAL FOUNDATIONS OF NURSING EDUCATION.—A special section of Education 84, applied to Nursing Education. A survey of major historical, philosophical, and sociological factors which have affected developments in nursing and nursing education. The purpose of the course is to give the student a better understanding of the place of nursing in present day society and the responsibilities of the individual nurse toward that society. 9:20-10:40. 53.326. 3 s.h.

MISS RAPPAPORT

S120N. NURSING EDUCATION: PROBLEMS IN NURSING CARE.—Each student works on an individual problem designed to improve the nursing care of patients. Hours to be arranged. 3 s.h.

MISSSES ZUKOWSKI, TILLEY

S124N. NURSING EDUCATION: TEACHING OF THE NURSING ARTS.—In this course an effort is made to help prospective teachers to integrate the facts and principles of the natural, social, and medical sciences into the teaching of nursing arts. Though major emphasis is placed upon problems which are involved in teaching the first course, the concept of the nursing arts as an integral part of each clinical area is stressed. 7:40-9:00. 10.201. 3 s.h.

MISS RAPPAPORT

S129N. THE PSYCHOLOGICAL ASPECTS OF NURSING CARE.—This course is designed to help the student better understand how patients feel and why they may behave as they do. Special consideration will be given to problems such as resistance to treatment, lack of desire to get well, discouragement, and suspicion. The student may try new techniques in the Duke Hospital setting, if she so desires. 7:40-9:00. 10.204. 3 s.h.

MISS ZUKOWSKI

NOTE: The above course is essentially the same as 130N, Psychosomatic Nursing, which appears in the Undergraduate Bulletin.

S136N. SEMINAR IN MEDICAL OR SURGICAL SPECIALTY.—Directed study in a medical or surgical specialty. Each student works on a problem of major interest to her—such as care of the patient with cancer or care of the patient with heart disease. Individual research in the collection of original material. 9:20-10:40. 10.106C. 3 s.h.

MISS INGLES

S193N. WARD ADMINISTRATION AND TEACHING.—This course is designed to help head nurses better understand their functions in planning and managing a program in a hospital division which will result in improved care of patients, greater satisfaction for professional and non-professional personnel and a more adequate teaching program for students and others. 11:00-12:20. 53.326. 3 s.h.

MISS INGLES

SECOND TERM

S120N. NURSING EDUCATION: PROBLEMS IN NURSING CARE.—Each student works on an individual problem designed to improve the nursing care of patients. Hours to be arranged. 3 s.h.

MISSSES ZUKOWSKI, TILLEY

S194N. TEAM NURSING.—Discussion of principles of Team Nursing, and practice in a Clinical area as a team member and a team leader. 7:00-12:20. Room 3032, Duke Hospital. Monday through Friday, July 25-August 5. Limited to 20 students. 2 s.h.

MISS CLARK AND STAFF

S195N. PERSONNEL WORK IN SCHOOLS OF NURSING.—The primary purpose of this course is to help nurses and supervisors to develop greater understanding of the principles of human behavior and greater ability to apply these principles in working with patients and others in hospital divisions and in establishing cooperative relationships with other departments of the hospital. 9:20-10:40. 53.312. 3 s.h.

MISS JACOBANSKY

ENGINEERING

PROFESSOR WALTER J. SEELEY, DEAN OF THE COLLEGE OF ENGINEERING
135 ENGINEERING BUILDING (WEST CAMPUS)

FIRST TERM

M.E.S52 KINETICS-MECHANISM.—Motions of particles; applications of Newton's laws of motion to motions of rigid bodies; work, energy, impulse, and momentum; linkages, cams, gears, trains of mechanism. Prerequisites: statics, differential and integral calculus. June 28-July 23. Recitation daily 7:40-9:00 and 11:00-12:20. Laboratory 2:00-5:00 three days per week. 47.207. 4 s.h. MR. FULTON

M.E.S103. HEAT POWER ENGINEERING.—A short course in engineering thermodynamics with applications to power plant design, for C.E. and E.E. students only. Prerequisites: Chemistry 2, Mathematics 52, Physics 52. 9:20-10:40. 47.140. 3 s.h. MR. FULTON

C.E.S110. PLANE SURVEYING.—Use of instruments; transit, stadia, and compass surveying; determination of meridian by observation on Polaris; differential and profile leveling; setting grade stakes; calculation of bearings, latitudes, departures and areas; methods of plotting; survey and plot of portions of campus by stadia, and transit and tape; care and adjustment of instruments. Prerequisite: trigonometry; engineering drawing desirable. (Four weeks, eight hours a day.) June 14-July 11. 8:00-12:00, 1:00-5:00. 47.117. 4 s.h. (See Forestry.) MR. THARP

E.E.S123. PRINCIPLES OF ELECTRIC CIRCUITS.—A course designed especially for students in other branches of engineering, covering fundamental electric units and both alternating and direct-current circuits. Prerequisites: Mathematics 52 and Physics 52. June 28-July 23. Recitation daily 7:40-9:00 and 11:00-12:20. Laboratory 2:00-5:00 three days per week. 47.212. (This course is limited to twelve students.) 4 s.h. MR. EGERTON

SECOND TERM

M.E.S104. HEAT POWER ENGINEERING.—A continuation of M.E.S103, for C.E. and E.E. students only. Prerequisite: M.E.103. 9:20-10:40. 47.140. 3 s.h. MR. KENYON

M.E.S105. FLUID MECHANICS.—Fluid statics; kinematics of fluid flow; application of fluid dynamics theory to flow through orifices, weirs, and pipes; general principles of centrifugal pumps and turbines. Prerequisites: Mathematics 52, Physics 52. 11:00-12:20. 47.139. 3 s.h. MR. KENYON

G.E.S107. STRENGTH OF MATERIALS.—Elastic bodies under stress; flexure of simple, overhanging, fixed and continuous beams; columns; combined stresses; and energy of strain. Prerequisites: statics, differential and integral calculus. 7:40-9:00. 47.139. 3 s.h. MR. PALMER

E.E.S124. PRINCIPLES OF ELECTRIC MACHINERY.—A course designed especially for students in other branches of engineering, covering the application of the principles of course E.E.123 to alternating and direct-current machinery and associated apparatus. Prerequisite: E.E.123. July 26-August 19. Recitation daily 7:40-9:00 and 11:00-12:20. Laboratory 2:00-5:00 three days per week. 47.212. (This course is limited to twelve students.) 4 s.h. MR. EGERTON

ENGLISH

PROFESSOR CHARLES E. WARD, CHAIRMAN—323 ALLEN BUILDING (WEST CAMPUS)
PROFESSOR BENJAMIN BOYCE, DIRECTOR OF GRADUATE STUDIES—
401 ALLEN BUILDING (WEST CAMPUS)

Candidates for the Master's degree in English are expected to have had at least twelve semester hours in undergraduate courses above the Sophomore level. The Department may also require additional courses if the work of the student in his first term indicates inadequate preparation.

FIRST TERM

S1. ENGLISH COMPOSITION.—A course in the fundamentals of English Composition, oral and written, with special attention to sentence structure, syntax, common errors, etc. Frequent themes. 11:00-12:20. 10.110. 3 s.h. MR. BOWMAN

S2. ENGLISH COMPOSITION.—A continuation of course S1. 9:20-10:40. 10.110. 3 s.h. MR. MAJOR

S55. REPRESENTATIVE WRITERS.—Chaucer's Prologue to *The Canterbury Tales* and at least two tales, Shakespeare's *I Henry IV* and *King Lear* and one other play, Jonson's *The Alchemist*, John Donne's poems, Milton's *Paradise Lost* (selections) and some of the shorter poems. 11:00-12:20. 10.107. 3 s.h. MR. MAJOR

S123. SHAKESPEARE.—About twelve plays, before 1600—mainly comedies and history plays. Occasional tests and several short papers. 9:20-10:40. 10.107. 3 s.h. MR. BOWMAN

S138. AMERICAN LITERATURE.—A survey of American literature from the Civil War to the present day. Readings in important American poetry, fiction, and criticism from Whitman to Faulkner. 7:40-9:00. 10.205. 3 s.h. MR. BUDD

S217. MILTON.—Milton's poetry and prose, with emphasis on the major poems. 1:00-2:20. 4.502. 3 s.h. MR. GILBERT

S234. AMERICAN LITERATURE OF THE TWENTIETH CENTURY.—Selected works of representative authors, including Dreiser, Edith Wharton, Mencken, Lewis, Willa Cather, O'Neill, Robinson, Frost, Eliot, Hemingway, and Faulkner. The lectures will deal primarily with literary trends as shaped by the social background. 9:20-10:40. 10.210. 3 s.h. MR. GOHDES

S239. SHAKESPEARE.—A study of the plays and poems, with attention to sources, earlier criticism, and the work of Shakespeare's contemporaries. 2:40-4:00. 4.502. 3 s.h. MR. GILBERT

S254. PROBLEMS IN THE TEACHING OF AMERICAN LITERATURE.—Conferences, class discussions, and preparation of teaching units on selected works. 11:00-12:20. 10.210. 3 s.h. MR. GOHDES

SECOND TERM

S2. ENGLISH COMPOSITION.—A continuation of course S1. 11:00-12:20. 53.307. 3 s.h. MR. REICHARD

S56. REPRESENTATIVE WRITERS.—Pope's *Poems* (selections), Fielding's *Joseph Andrews*, Keats's *Poems and Letters*, Arnold's *Selected Poetry and Prose*, Dickens's *Bleak House*, Yeats's *Collected Poems*, Shaw's *Saint Joan*, and a twentieth-century novel. 9:20-10:40. 53.318. 3 s.h. MR. BROOKS

S130. ENGLISH NOVEL.—A study of major English novels of the nineteenth century. Lectures, discussions, tests, and a term paper. 9:20-10:40. 53.307. 3 s.h. MR. REICHARD

S151. ESSENTIALS OF PUBLIC SPEAKING.—A basic course in public speaking, designed to give the student the poise and confidence necessary to think and speak freely before an audience. Particular attention is paid to the gathering and organization of speech materials and to oral presentation. 11:00-12:20. 53.316. 3 s.h. MISS SCHWERMAN

S229. AMERICAN LITERATURE, 1800-1870.—In this course the New England writers are studied. Emerson, Thoreau, and Hawthorne are emphasized, and some attention is given also to Bryant, Longfellow, Holmes, Whittier, Lowell, and Parkman. 9:20-10:40. 53.316. 3 s.h. MR. TURNER

S252. ENGLISH LITERATURE IN THE SECOND HALF OF THE SEVENTEENTH CENTURY.—A survey of the major works in prose, poetry, and the drama from 1660-1700. 7:40-9:00. 53.234. 3 s.h. MR. WARD

S270. SOUTHERN LITERATURE.—The work of this course begins after the Civil War. Wide reading in the chief authors of the New South, with considerable attention to the social and historical background. 11:00-12:20. 53.312. 3 s.h.

MR. TURNER

FORESTRY

PROFESSOR CLARENCE F. KORSTIAN, DEAN OF THE SCHOOL OF FORESTRY AND DIRECTOR OF GRADUATE STUDIES—308 SOCIAL SCIENCE BUILDING (WEST CAMPUS)

Organized course work in the School of Forestry during the Summer Session is limited to plane surveying, forest surveying, tree identification, and forest mensuration which are required of all students entering upon two years of study in technical forestry leading to the degree of Master of Forestry (M.F.)

Qualified students may engage in thesis research in certain branches of forestry during the Summer Session with the approval of the instructor concerned and the Dean of the School of Forestry or of the Director of Graduate Studies in the case of work taken through the Graduate School.

C.E.S110. PLANE SURVEYING.—Use of instruments; transit, stadia, and compass surveying; determination of meridian by observation on Polaris; differential and profile leveling; setting grade stakes; calculation of bearings, latitudes, departures and areas; methods of plotting; survey and plot of portions of campus by stadia, and transit and tape; care and adjustment of instruments. Prerequisites: trigonometry; engineering drawing desirable. (Four weeks, eight hours a day.) 47.117. June 14-July 11. 4 s.h.

MR. THARP

S149. FOREST TREE IDENTIFICATION.—Field studies leading to the identification of trees and principal shrubs indigenous to the Piedmont and coastal plain forests of the Southeastern United States. (One week, eight hours a day.) 9.101, July 12-July 18. 1 s.h.

MR. HARRAR

S150. FOREST SURVEYING.—Application of plane surveying to forest problems; practice in making boundary, topographical and cover type surveys of forested tracts, using both intensive and extensive methods; forest mapping and surveying using aerial photos. Work includes use of transit, level, plane table, traverse board, topographic abney, slope tape, aneroid barometer, staff compass, and aerial photo interpretation equipment. Prerequisites: Civil Engineering, S110 Plane Surveying; Forestry S149. Forest-Tree Identification, or equivalents. (Four weeks, eight hours a day.) 10.322. July 19-August 15. 4 s.h.

MR. CHAIKEN

S151. FOREST MENSURATION.—Field studies in methods of measuring content and growth of trees and forest stands; practice in timber estimating, log scaling, use of mensurational instruments, and collection of basic data. (Four weeks, eight hours a day.) 9.101. August 16-September 12. 4 s.h.

MR. SCHUMACHER

S357. RESEARCH IN FORESTRY.—Open to students whose research programs for the M.F. or D.F. degree have been approved by the Dean of the School of Forestry and the instructor responsible for directing the research and whose programs for the A.M. or Ph.D. degree have been approved by the Director of Graduate Studies and the instructor in charge. (Credits and schedule to be arranged.) June 14-August 31. 2 to 12 s.h. (Not more than one semester hour of credit per week for full time schedule or one semester hour each two weeks for half-time schedule.) (Consult courses 301-302 in Announcement of School of Forestry for letter designation of branches of forestry in which research is to be conducted.) 10.308. STAFF

FRENCH

PROFESSOR B. R. JORDAN, CHAIRMAN OF THE DEPARTMENT OF ROMANCE LANGUAGES—

214 CARR BUILDING (EAST CAMPUS); PROFESSOR L. B. WALTON, DIRECTOR OF

GRADUATE STUDIES OF THE DEPARTMENT OF ROMANCE LANGUAGES—

GRAY 207 (WEST CAMPUS)

FIRST TERM

S1. ELEMENTARY FRENCH.—June 14-July 1. 7:40-9:00 and 11:00-12:20. 53.318. 3 s.h.

MR. BARLOW

S2. ELEMENTARY FRENCH.—July 5-July 23. 7:40-9:00 and 11:00-12:20. 53.318. 3 s.h. MR. BARLOW

NOTE: A student enrolled in French S2 must also attend French S1, unless French 1 has been taken during Spring Semester 1955.

S3. INTERMEDIATE FRENCH.—Standard literary texts (short story, novel, drama) are used as the basis for intensive drill on the essentials of vocabulary, idiom, and construction. Extensive oral exercises are included in the reading objective. Prerequisite: French 1-2, or two units of high school French. 7:40-9:00. 53.327. 3 s.h. MR. GRANT

S4. INTERMEDIATE FRENCH.—Continuation of French S3. May be taken concurrently with French S3. 11:00-12:20. 53.226. 3 s.h. MR. VINCENT

S51. INTRODUCTION TO FRENCH LITERATURE.—Selected texts in modern French literature (fiction and drama) are approached from the literary as well as the linguistic point of view. Throughout the course there is systematic oral practice based on topics within the reading assignments. Prerequisite: French 3-4, or equivalent. 7:40-9:00. 53.326. 3 s.h. MR. VINCENT

S52. INTRODUCTION TO FRENCH LITERATURE.—Continuation of French S51. May be taken concurrently with French S51. 11:00-12:20. 53.327. 3 s.h. MR. GRANT

GEOLOGY

PROFESSOR E. WILLARD BERRY, CHAIRMAN—019 SCIENCE (EAST CAMPUS)

All classes in Geology, Term I, will begin on June 28 and continue through July 23. All classes in Geology, Term II, will begin on July 27 and continue through August 19. Students who wish to avoid paying a late registration fee must have their registration completed in advance of these dates. For registration dates see *General Registration* on page 19 of this *Bulletin*.

FIRST TERM

S51. GENERAL GEOLOGY.—This course is designed to give a general view of the surface features of the earth, their origin, structure, and materials. Illustrative materials are studied in the laboratory. Excursions may be made to neighboring points where principles of the science are studied in the field. Lectures or recitations, 8:00-11:00 daily; laboratory 2:00-5:00, Monday through Thursday, June 28-July 23. 09 Science Building, East Campus, 4 s.h. MR. HERON

SECOND TERM

S52. GENERAL GEOLOGY.—This course is designed to give some knowledge of the chief events of the earth's history. Excursions may be made to suitable neighboring localities. Lectures or recitations, 8:00-11:00 daily; laboratory 2:00-5:00 Monday through Thursday, July 27-August 19. 09 Science Building, East Campus. 4 s.h. MR. HERON

GERMAN

PROFESSOR CLEMENT VOLLMER, CHAIRMAN—106A SOCIAL SCIENCE BUILDING (WEST CAMPUS)

FIRST TERM

S1. ELEMENTARY GERMAN.—The fundamentals of grammar and pronunciation; vocabulary drill, translation, and dictation. Emphasis upon a sound reading knowledge of the language and individual achievement. June 14 to July 1. 7:40-9:00 and 11:00-12:20. 53.328. 3 s.h. MR. WILSON

S2. ELEMENTARY GERMAN.—The equivalent of the second college semester of German; intensive reading of graded material; grammar and vocabulary drill; dictation and sight translation. July 5-July 23. 7:40-9:00 and 11:00-12:20. 53.328. 3 s.h. MR. WILSON

NOTE: A student enrolled in German S2 must also attend German S1, unless German 1 has been taken during Spring Semester, 1955.

GREEK

ASSOCIATE PROFESSOR JAMES N. TRUESDALE, CHAIRMAN—123 ALLEN BUILDING
(WEST CAMPUS)

FIRST TERM

S121. GREEK LITERATURE: HOMER.—*Iliad and Odyssey*. The purpose of this course is to give a general survey of the life and civilization of the Greeks, especially to those who have never studied the language but wish to become acquainted with some of the choicest portions of the literature by the use of translations. The *Iliad* and the *Odyssey* are read in translation, and the excavations and discoveries at Troy and other cities of the Aegean age are discussed.

S121.1 2.101. 7:40-9:00. 3 s.h.

MESSRS. TRUESDALE, ROSE

S121.2 2.102. 7:40-9:00. 3 s.h.

S122. GREEK LITERATURE: THE TRAGIC POETS.—The purpose of this course is similar to that of course S121. Many of the extant plays of Aeschylus, Sophocles, and Euripides are studied in English translations. 2.101. 9:20-10:40. 3 s.h.

MR. TRUESDALE

HEALTH AND PHYSICAL EDUCATION

E. M. CAMERON, DIRECTOR, TRINITY COLLEGE AND COLLEGE OF ENGINEERING—
109 GYMNASIUM (WEST CAMPUS)

FIRST TERM

PE S57. VOLLEYBALL-TENNIS.—Gymnasium. Hours to be arranged. 1 s.h.
(M)

PE S65. HISTORY AND PRINCIPLES OF PHYSICAL EDUCATION.—A study of the objectives and principles upon which physical education is based. The history of physical education is studied in order to show the changes in objectives, principles and methods, and as an aid in the interpretation of trends. Open to Sophomores, Juniors, and Seniors. Gymnasium. 9:20-10:40. 3 s.h.

MR. AYCOCK

PE S190. PROTECTIVE PRACTICES IN PHYSICAL EDUCATION.—Training and conditioning of athletic teams and the prevention, diagnosis, and treatment of athletic injuries. Gymnasium. 1:40-3:00. 3 s.h.

MR. MONTFORT

HISTORY

PROFESSOR E. MALCOLM CARROLL, CHAIRMAN—235 ALLEN BUILDING (WEST CAMPUS);
PROFESSOR ROBERT H. WOODY, DIRECTOR OF GRADUATE STUDIES—
231 ALLEN BUILDING (WEST CAMPUS)

For admission to candidacy for a Master's degree in History the student must present a total of eighteen semester hours of prior work in History, of which at least six must be in American History if he plans to take his major work in that field. Before enrolling for thesis supervision, candidates for the Master's degree are required to complete at least three semester hours of seminar work and are strongly urged to enroll for this work in the second term of their attendance in the Summer Session. (See courses numbered 300 or above.)

FIRST TERM

S51. HISTORICAL BACKGROUND OF THE WORLD TODAY 1500-1871.—The central fact of the expansion of Europe underlies the content of the course. The chief themes are: the contest between liberty and authority in the modern state, changing economic theory and organization, and the problems of peace and war among the states, including the Western infiltration of Asia, Latin America, and Africa, and the rise of the United States as a world power. 9:20-10:40. 53.229. 3 s.h.

MR. ROPP

599. NAVAL HISTORY AND ELEMENTARY STRATEGY.—After a review of earlier periods, attention is given to the rise of sea-power and its importance in more recent times and to naval actions, especially in the two World Wars. This course is not open to students who have N.S. 102. 7:40-9:00. 10.209. 3 s.h.

MR. ROPP

591. THE DEVELOPMENT OF AMERICAN DEMOCRACY TO 1865.—This course is a study of trends vital to an understanding of the United States today. The main theme is the development of American democracy. Problems of foreign policy, the growth of capitalism, political practices, social behavior, and conflicting ideals are considered in relation to this main theme. 7:40-9:00. 10.208. 3 s.h.

MR. DECONDE

5121. THE FOREIGN RELATIONS OF THE UNITED STATES TO 1900.—This course deals with the historical development of ideas and movements which have shaped American attitudes toward the outside world in the growth from colonial status to world power. The origins of American foreign policy, the Monroe Doctrine, Manifest Destiny, the diplomacy of the Civil War and the Spanish-American War, and the Open Door are among the major topics which are discussed. An historical introduction to the formal conduct of diplomacy is provided. 11:00-12:20. 53.225. 3 s.h.

MR. DECONDE

5206. THE UNITED STATES, 1920-1941.—The political, economic, and intellectual history of the twenties with special emphasis upon the origins of the New Deal; the development of the Roosevelt domestic program; and the policies leading to involvement in World War II. 7:40-9:00. 53.225. 3 s.h.

MR. WATSON

5229. RECENT INTERPRETATIONS OF MODERN EUROPEAN HISTORY.—A course designed to develop the ability to appraise critical historical issues through the study and discussion of recent interpretations of key historical problems in Modern European History. The topics selected will vary with the needs of the class, but will include such classic controversies as the nature of the Industrial Revolution, the origins of World War I, and the Russian Revolution. 9:20-10:40. 53.225. 3 s.h.

MR. PARKER

5301. SEMINAR IN HISTORICAL RESEARCH. 1:40-3:00 or at an hour to be arranged. 53.234. 3 s.h.

MR. WATSON

SECOND TERM

552. HISTORICAL BACKGROUND OF THE WORLD TODAY 1871-1940.—A continuation of History 51. 9:20-10:40. 53.229. 3 s.h.

MR. FERGUSON

592. THE DEVELOPMENT OF AMERICAN DEMOCRACY, 1865 TO THE PRESENT.—The emphasis is on the emergence of contemporary problems. 7:40-9:00. 53.226. 3 s.h.

MR. STEVENS

5266. THE WESTWARD MOVEMENT IN THE UNITED STATES SINCE 1840.—The political and constitutional problems of territorial expansion and of slavery in the territories; the early transcontinental railroads; and the settlement of the Great Plains, the Rocky Mountains, and the Pacific Coast; and the expansion across the Pacific. 9:20-10:40. 53.234. 3 s.h.

MR. STEVENS

5302. SEMINAR IN HISTORICAL RESEARCH. 1:40-3:00 or at an hour to be arranged. 53.234. 3 s.h.

MR. HAMILTON

LATIN AND ROMAN STUDIES

PROFESSOR ROBERT S. ROGERS, CHAIRMAN—204 CARR BUILDING (EAST CAMPUS)

FIRST TERM

5111. ROMAN LITERATURE IN ENGLISH TRANSLATION.—Selected readings of Latin literature in English translation with emphasis on the drama, lyric poetry, and the varied contributions of Cicero to literature. 2.102. 9:20-10:40. 3 s.h.

MR. ROSE

MATHEMATICS

PROFESSOR J. J. GERGEN, CHAIRMAN—134 PHYSICS BUILDING (WEST CAMPUS); PROFESSOR
J. H. ROBERTS, DIRECTOR OF GRADUATE STUDIES—230 PHYSICS
BUILDING (WEST CAMPUS)

Graduate students are invited to consult with the Director of Graduate Studies concerning their programs.

FIRST TERM

S5. COLLEGE ALGEBRA.—Advanced topics in quadratic equations, systems involving quadratics, variation, binomial theorem, progressions, inequalities, theory of equations, determinants, partial fractions, probability. This course and Mathematics 6 may be taken concurrently. Prerequisite: Mathematics 1, or one and one-half units in algebra and one unit in geometry. 7:40-9:00. 49.135. 3 s.h.

MR. CARLITZ

S6. PLANE TRIGONOMETRY.—Logarithms, right and oblique triangles, radian measure, graphs of trigonometric functions, inverse trigonometric functions, trigonometric identities and equations. Prerequisite: Must be preceded or accompanied by Mathematics 5. 9:20-10:40. 49.135. 3 s.h.

MR. THOMAS

S224. MATHEMATICAL STATISTICS.—Representation of data, averages, measures of dispersion, comparison of distributions, correlation, probability functions, normal curve and generalizations, sampling. Prerequisite: Calculus. 9:20-10:40. 49.138. 3 s.h.

MR. CARLITZ

S241. INTEGRAL EQUATIONS.—Volterra and Fredholm integral equations, Hilbert-Schmidt theory, applications to mathematical physics. 7:40-9:00. 49.138. 3 s.h.

MR. THOMAS

S389X. THESIS SEMINAR.—Supervision of individual theses in algebra, analysis and geometry. Students should consult with the Director of Graduate Studies before registering. Thesis credit only. Hours to be arranged.

MESSRS. CARLITZ, THOMAS

(Students interested in the teaching of high school mathematics are referred to Education S246, in this *Bulletin*.)

SECOND TERM

S50. PLANE ANALYTIC GEOMETRY.—Rectangular and polar coordinates, loci, straight lines, conic sections. This course and Mathematics S51 may be taken concurrently. Prerequisites: Mathematics 5 and 6. 7:40-9:00. 49.135. 3 s.h.

MR. ROBERTS

S51. CALCULUS I.—Differentiation of elementary functions, curve tracing, maxima and minima, motion, curvature, indeterminate forms. Prerequisite: Must be preceded or accompanied by Mathematics 50. 9:20-10:40. 49.135. 3 s.h. MR. ELLIOTT

S53. CALCULUS III.—Introduction to solid analytic geometry, partial differentiation, multiple integrals, series, introduction to differential equations. Prerequisite: Mathematics 52. 9:20-10:40. 49.132. 3 s.h.

MR. ROBERTS

S389X. THESIS SEMINAR.—Supervision of individual theses in algebra, analysis, and geometry. Students should consult with the Director of Graduate Studies before registering. Thesis credit only. Hours to be arranged.

MR. ROBERTS

SOLID GEOMETRY

September 5-September 15, Monday-Thursday. 8:30-11:30. 49.135. 0 s.h.

MR. ELLIOTT

PHILOSOPHY

PROFESSOR GLENN NEGLEY, CHAIRMAN—3-1 WEST DUKE BUILDING (EAST CAMPUS);
 PROFESSOR CHARLES A. BAYLIS, DIRECTOR OF GRADUATE STUDIES—
 3-1 WEST DUKE BUILDING (EAST CAMPUS)

FIRST TERM

S48. LOGIC.—A study of the conditions of effective thinking and clear communication, and of typical sources of fallacies. Examination of the basic principles of deductive reasoning (making explicit the implications of statements) and of inductive reasoning (the formulation and testing of hypotheses on the basis of experience and experiment). Emphasis on practical illustrations and applications. 11:00-12:20. 53.314. 3 s.h. MR. BUCK

S93. HISTORY OF PHILOSOPHY: ANCIENT AND MEDIEVAL.—A study of the major philosophers of the period with special reference to the continuity of their thought. 9:20-10:40. 53.314. 3 s.h. MR. BUCK

SECOND TERM

S48. LOGIC.—A study of the conditions of effective thinking and clear communication, and of typical sources of fallacies. Examination of the basic principles of deductive reasoning (making explicit the implications of statements) and of inductive reasoning (the formulation and testing of hypotheses on the basis of experience and experiment). Emphasis on practical illustrations and applications. 11:00-12:20. 53.229. 3 s.h. MR. WELSH

S91. INTRODUCTION TO PHILOSOPHY.—A systematic and historical examination of the major problems of knowledge, morals, and metaphysics. 9:20-10:40. 53.226. 3 s.h. MR. WELSH

PHYSICS

PROFESSOR WALTER M. NIELSEN, CHAIRMAN AND DIRECTOR OF GRADUATE STUDIES—
 119 PHYSICS BUILDING (WEST CAMPUS)

Classes in Physics S51, Term I, will begin on June 21 and continue through July 23. Classes in Physics S52, Term II, will begin on July 27 and continue through August 25. Students who wish to avoid paying a late registration fee must have their registration completed in advance of these dates. For registration dates see *General Registration* on page 19 of the *Bulletin of the Summer Session*.

FIRST TERM

S51. GENERAL PHYSICS.—This course treats the basic principle of general physics in a more quantitative manner than Physics 1-2. It is designed for Sophomores and Juniors and meets in a thorough way the physics requirements for entrance into the study of either medicine or engineering, and is well suited for the general student. A limited number of Freshmen who present physics for entrance and who have completed the required mathematics may be admitted by permission of the instructor. (Not open to students who have completed Physics 1-2.) Prerequisite: Mathematics 5-6 or equivalent. Lecture and recitation daily, 8:30-9:50 and 10:10-11:30; laboratory three days per week, 1:00-4:00. 49.113. June 21-July 23. 5 s.h. MR. CARPENTER

S353X. THESIS SEMINAR.—Students who are properly qualified may carry on research work under direction. Credits and hours to be arranged. STAFF

SECOND TERM

S52. GENERAL PHYSICS.—A continuation of Physics S51. Prerequisite: Physics S51. Lecture and recitation daily, 8:30-9:50 and 10:10-11:30; laboratory three days per week, 1:00-4:00. 49.113. July 27-August 25. 5 s.h. MR. CARPENTER

S353X. THESIS SEMINAR.—For description, see First Term.

STAFF

POLITICAL SCIENCE

PROFESSOR ROBERT S. RANKIN, CHAIRMAN—308 LIBRARY (WEST CAMPUS); PROFESSOR R. R. WILSON, DIRECTOR OF GRADUATE STUDIES—405 NEW LIBRARY TOWER (WEST CAMPUS)

FIRST TERM

S61. AMERICAN GOVERNMENT AND POLITICS.—A study of the American political system, emphasizing the organization and functioning of the national government. 11:00-12:20. 53.233. 3 s.h. MR. SIMPSON

S125. AMERICAN POLITICAL PARTIES AND PRACTICAL POLITICS.—A study of the historical development, organization, and methods of political parties in the United States. 9:20-10:40. 53.233. 3 s.h. MR. SIMPSON

S232. JAPANESE CIVILIZATION.—Analysis of Japanese culture with reference to social and political institutions. Buddhist, Confucian, and Shinto bases of Japanese thought are examined. 9:20-10:40. 53.125. 3 s.h. MR. BRAIBANTI

S311. SEMINAR IN FAR EASTERN POLITICS.—Open to students who have completed course 211 or its equivalent. 1:40-3:00. 53.125. 3 s.h. MR. BRAIBANTI

SECOND TERM

S62. AMERICAN GOVERNMENT AND POLITICS.—A continuation of S61. For description See Term I. 11:00-12:20. 53.233. 3 s.h. MR. HALL

S141. PUBLIC ADMINISTRATION.—An introduction to the role of administration in the governmental process considering principles of administrative organization, methods of administrative control, personnel and fiscal management. In general the study of the organizational and administrative problems encountered by any government agency charged with carrying out a public policy. 9:20-10:40. 53.233. 3 s.h. MR. HALL

S209. PROBLEMS IN STATE AND COUNTY GOVERNMENT IN THE UNITED STATES.—A study of the historical development of state and county governments, their present organizations and subdivisions, and their relation to each other. Special attention is given to the position of the states in the federal union through the study of the federal-state, inter-state, and state-local relations. 7:40-9:00. 53.233. 3 s.h. INSTRUCTOR TO BE ANNOUNCED

S291. PROBLEMS OF MUNICIPAL GOVERNMENT.—An analysis of problems relating to the structural system and activities of municipalities in the United States. 9:20-10:40. 53.314. 3 s.h. INSTRUCTOR TO BE ANNOUNCED

PSYCHOLOGY

PROFESSOR ELIOT H. RODNICK, CHAIRMAN—106 BIVINS BUILDING (EAST CAMPUS)
PROFESSOR KARL ZENER, DIRECTOR OF GRADUATE STUDIES—205
PSYCHOLOGY LABORATORY BUILDING (EAST CAMPUS)

For admission to candidacy for a Master's Degree in Psychology, the student must present a total of twelve semester hours in Psychology beyond the Introductory Course, at least six semester hours of which must be taken in senior-graduate courses.

Further details concerning the program of studies in Psychology may be obtained from the Director of Graduate Studies in Psychology.

FIRST TERM

S91. INTRODUCTORY PSYCHOLOGY.—An introduction to the facts, principles, and problems of normal adult psychology through a study of psychological methods as applied to motivation, emotions, perception, sensation, thinking, memory, learning, individual differences, and personality. 9:20-10:40. 53.307. 3 s.h. MR. KIMBLE

S211. THE PROBLEM CHILD (Also Education S211).—Study of problem behavior and adjustment in children with emphasis on the causes and treatment of conduct and neurotic disorders of the maladjusted child. Particular attention will be paid to mental hygiene principles in the handling of problem children in school and home. 11:00-12:20. 53.125. 3 s.h. MR. BORSTELMANN

S232. PERSONALITY AND PHYSICAL HANDICAP.—Survey of the psychological factors underlying adjustment to physical disabilities, with particular stress upon personality, emotional and social attributes. Selected case studies will be used to illustrate the integration of such factors in adjusting to home, school, and hospital settings. These cases will stress the psychological factors which hinder learning and retraining procedures. Discussion will center about psychological techniques to produce more effective progress in rehabilitation. 7:40-9:00. 2.105. 3 s.h.

MR. GARMEZY

S303. RESEARCH.—Students who are properly qualified may carry on research work under direction. Hours to be arranged. 3 s.h.

STAFF

SECOND TERM

S304. RESEARCH.—Students who are properly qualified may carry on research work under direction. Hours to be arranged. 3 s.h.

STAFF

RELIGION

PROFESSOR JAMES CANNON, DEAN OF THE DIVINITY SCHOOL—110 DIVINITY SCHOOL (WEST CAMPUS); PROFESSOR H. E. MYERS, CHAIRMAN OF THE DEPARTMENT OF RELIGION—108 GRAY (WEST CAMPUS); ASSOCIATE PROFESSOR JAMES H. PHILLIPS, DIRECTOR OF UNDERGRADUATE STUDIES IN RELIGION—106 GRAY (WEST CAMPUS); PROFESSOR H. SHELTON SMITH, DIRECTOR OF GRADUATE STUDIES IN RELIGION—308 DIVINITY SCHOOL (WEST CAMPUS)

THE DEPARTMENT OF RELIGION

FIRST TERM

S51. THE ENGLISH BIBLE.—Survey of the contents of the Old Testament books in the light of their origin in the history and religion of the Hebrew people. 7:40-9:00. 2.01. 3 s.h.

MR. OSBORN

S52. THE ENGLISH BIBLE.—A study of the personalities and literature of the New Testament against their Jewish, Hellenistic and Roman background. 9:20-10:40. 2.01. 3 s.h.

MR. OSBORN

S91. AN INTRODUCTION TO CHRISTIAN ETHICS.—A study of the theistic interpretation of man's moral experience, based upon the world-view of the Bible, as contrasted with other classical and contemporary moral philosophies. In the survey of the ethical religion of the Bible special attention is given to the Hebrew prophets, to Jesus and the Apostle Paul. 11:00-12:20. 2.02. 3 s.h.

MR. PRICE

S114. THE LIFE AND TEACHINGS OF JESUS.—This course considers the period in which Jesus lived, the record of his life, and the meaning of his teachings as recorded in the Synoptic Gospels. *Students may not receive credit for S114 and S101.* 9:20-10:40. 2.02. 3 s.h.

MR. PRICE

SECOND TERM

S51. THE ENGLISH BIBLE.—Survey of the contents of the Old Testament books in the light of their origin in the history and religion of the Hebrew people. 7:40-9:00. 2.01. 3 s.h.

MR. MANSCHRECK

S52. THE ENGLISH BIBLE.—A study of the personalities and literature of the New Testament against their Jewish, Hellenistic and Roman background. 11:00-12:20. 2.02. 3 s.h.

MR. PHILLIPS

S101. THE SOCIAL TEACHINGS OF THE PROPHETS AND JESUS.—A study of the social teachings of the Old Testament prophets and of the social ideas of Jesus as they appear in the four gospels. *Not open for credit to students who take S114.* 9:20-10:40. 2.01. 3 s.h.

MR. PHILLIPS

S130. CHRISTIAN ETHICS IN HISTORY AND MODERN LIFE.—A historical study of how Christians from New Testament times to the present have interpreted and expressed their ethical convictions. The aim of the course will be to provide historical depth for evaluating contemporary ethical issues. Prerequisite: Religion 91 or 3 s.h. in Bible. 9:20-10:40. 2.02. 3 s.h. **MR. MANSCHRECK**

THE DIVINITY SCHOOL

Class enrollments will be controlled as occasion may arise so as to secure a fairly even distribution among the courses offered in each term.

FIRST TERM

S108 (DS). COMPARATIVE RELIGION I.—The ideas of God, sin, and salvation in the religions of the world. 11:00-12:20. 3.205. 3 s.h. **MR. FOSTER**

S170 (DS). SEMINAR IN PASTORAL CARE.—For students preparing for full-time pastoral ministry, hospital chaplaincy, industrial chaplaincy, ministry to older people, or work with young people. 9:20-10:40. 3.205. 3 s.h. **MR. DICKS**

S180 (DS). CHURCH MUSIC.—A study of hymnology, song leading, and problems of the modern church choir. 1:40-3:00. Chapel Basement. 3 s.h. **MR. BARNES**

S199 (DS). THE AMERICAN SOCIAL GOSPEL.—A study of Protestant social thought and action in America since 1865. 7:40-9:00. 3.205. 3 s.h. **MR. SMITH**

SECOND TERM

S105 (DS). THE LIFE OF PAUL.—A study of Paul's life on the basis of Acts and the letters of Paul, emphasizing the permanent values in Paul's work and his contribution to the world. 11:00-12:20. 3.205. 3 s.h. **MR. MYERS**

S125 (DS). PSYCHOLOGY AND THEOLOGY.—An inquiry into the relations of psychological and theological interpretations of man. 1:40-3:00. 3.210. 3 s.h. **MR. RICHEY**

S194 (DS). INTRODUCTION TO CHRISTIAN SOCIAL ETHICS.—Christian norms for social policy and their application to the domestic, economic, political, and racial patterns of modern culture. 7:40-9:00. 3.205. 3 s.h. **MR. LACY**

S310 (DS). OLD TESTAMENT PROPHECY.—The prophetic movement in Israel with special emphasis on the prophets of the eighth century B.C. 9:20-10:40. 3.205. 3 s.h. **MR. STINESPRING**

SOCIOLOGY

PROFESSOR HOWARD E. JENSEN, CHAIRMAN—215E SOCIAL SCIENCE BUILDING (WEST CAMPUS); **PROFESSOR HORNELL HART, DIRECTOR OF GRADUATE STUDIES**—215D SOCIAL SCIENCE BUILDING (WEST CAMPUS)

The Department of Sociology offers graduate work leading to the A.M. and Ph.D. degrees. Before undertaking advanced work in this department, a student must have completed a minimum of twelve semester hours of approved preliminary courses in the field, and twelve additional semester hours in the field or in related work. A student who is deficient in the minimum required work will be asked to take additional undergraduate courses agreed upon in conference with the Director of Graduate Studies.

Candidates for advanced degrees in Sociology usually take minor work in Psychology, Economics, Political Science, Education, History, or Religion. Detailed requirements for the minor work, and for majors in other departments who wish to present Sociology as minor work, may be obtained from the Director of Graduate Studies.

FIRST TERM

S91-92. GENERAL SOCIOLOGY.—An introduction to the scientific study of social life, its origin, evolution, and organization as illustrated by the study of a number of concrete social problems. 7:40-9:00 and 11:00-12:20. 10.215. 6 s.h. **MRS. WHITRIDGE**

(Course 91-92, or 101, or 93, or 94 is prerequisite to all other courses in the department. Course 91-92, or 101 is required of all students majoring in the department.)

S233. RURAL SOCIOLOGY.—The sociology of the land; peasant and folk societies and cultures; patterns of rural settlement like the farm, the plantation, the ranch and others; rural personality types; the changing character of rural life; rural problems. 7:40-9:00. 10:216. 3 s.h. Mr. THOMPSON

S238. RACE AND CULTURE.—A study of the nature of race and of the relationships and problems of race. 11:00-12:20. 10:216. 3 s.h. Mr. THOMPSON

SECOND TERM

S250. MARRIAGE AND THE FAMILY.—An analysis of contemporary marriage and family experiences with emphasis on its functions, problems, resources and values. Not open to students who have received credit for Religion 170. 11:00-12:20. 53:327. 3 s.h. Mr. HART

S286. SOCIAL ETHICS.—A study of sociological fundamentals underlying ethics, including the controversy between materialistic and idealistic social thinkers, the nature of personalities and of social organization, the nature of social values, types of social interaction and their effects upon general social values, underlying principles and facts of social change, and the bearings of all these upon certain social problems. 7:40-9:00. 53:327. 3 s.h. Mr. HART

SPANISH

PROFESSOR BRADY R. JORDAN, CHAIRMAN OF DEPARTMENT OF ROMANCE LANGUAGES—214 CARR BUILDING (EAST CAMPUS); PROFESSOR L. B. WALTON, DIRECTOR OF GRADUATE STUDIES OF THE DEPARTMENT OF ROMANCE LANGUAGES—207 GRAY (WEST CAMPUS); PROFESSOR GIFFORD DAVIS, DIRECTOR OF THE SCHOOL OF SPANISH STUDIES—201 CARR BUILDING (EAST CAMPUS)

FIRST TERM

(Students enrolling in Spanish courses numbered above S1 and S2 should read carefully the statement on the School of Spanish Studies on page 29 of the *Bulletin of the Summer Session*.)

S1. ELEMENTARY SPANISH.—Essentials of grammar, reading of appropriate material, drill in the spoken language. June 14-July 1. 7:40-9:00 and 11:00-12:20. 16:108. 3 s.h. Mr. FEIN

S2. ELEMENTARY SPANISH.—Continuation of S1. July 5-23. 7:40-9:00 and 11:00-12:20. 16:108. 3 s.h. Mr. FEIN

NOTE: A student enrolled in S2 must also attend S1 unless he has passed Spanish 1 in the immediate spring semester.

S3. INTERMEDIATE SPANISH.—Reading in standard literary text; review of verbs and syntax; exercises in the spoken language based on the reading text; constant use of Spanish as the medium of instruction. 7:40-9:00. 16:110. 3 s.h. Mr. DAVIS

S4. INTERMEDIATE SPANISH.—Reading of modern short stories and novels, with emphasis on achievement of ability to read without translation; continued oral-aural drill; idiom study and grammar review as necessary. May be taken concurrently with Spanish S3. 11:00-12:20. 16:110. 3 s.h. Mr. TORRE

S65. INTRODUCTION TO MODERN SPANISH LITERATURE.—Study of representative masterpieces; brief lectures in Spanish; collateral reading of critical commentaries. 7:40-9:00. 53:229. 3 s.h. Mr. TORRE

S68. INTRODUCTION TO SPANISH-AMERICAN LITERATURE.—Study of typical works, chiefly of the modern period; brief lectures on literary, social and cultural backgrounds and tendencies; collateral readings and reports. May be taken concurrently with Spanish S65. 11:00-12:20. 53:307. 3 s.h. Mr. LÓPEZ-MORILLAS

S174. CONVERSATION AND PRONUNCIATION.—The aim of this course is two-fold: to improve the student's pronunciation and to increase his power of oral expression. The elements of Spanish phonetics will be presented in conjunction with practical exercises. Practice in oral expression will be afforded by class discussion of selected topics. 9:20-10:40. 2.209. 3 s.h. MR. PREDMORE

S265. GOLDEN AGE LITERATURE: CERVANTES.—The life and thought of Cervantes with special emphasis on his *Quijote*. 11:00-12:20. 2.209. 3 s.h. MR. PREDMORE

S274. TWENTIETH CENTURY LITERATURE.—A study of the literary and intellectual history of the years from the Spanish-American War to the Second Republic. 7:40-9:00. 53.234. 3 s.h. MR. LÓPEZ-MORILLAS

ZOOLOGY

PROFESSOR I. E. GRAY, CHAIRMAN, 217 BIOLOGY BUILDING; PROFESSOR K. M. WILBUR,
DIRECTOR OF GRADUATE STUDIES, 328 BIOLOGY BUILDING (WEST CAMPUS)

All classes in Zoology offered on Duke Campus in Term I will begin on June 28 and continue through July 23. All classes in Zoology offered at Duke Marine Laboratory at Beaufort, North Carolina, in Term I will begin on June 15 and continue through July 23. All classes in Zoology offered on Duke Campus in Term II will begin on July 27 and continue through August 19. All classes in Zoology offered at Duke Marine Laboratory, Beaufort, North Carolina, in Term II will begin on July 27 and continue through August 31. Students who wish to avoid paying a late registration fee must have their registration completed in advance of these dates. For registration dates see *General Registration* page 19 of this *Bulletin*.

For admission to candidacy for a Master's degree in Zoology, a student should have completed an undergraduate major in Zoology (courses in General Science and Botany are not counted as a part of a Zoology major). This normally amounts to about twenty-four semester hours, which should be distributed among various fields of Zoology, and must include Vertebrate Zoology or Comparative Anatomy, Physiology, and Embryology, passed with creditable grades. A candidate should also have completed at least one year of Chemistry. Work for the degree will require eighteen hours in advanced courses in Zoology, and six hours in another department for a minor, in addition to a thesis. Before registration for a degree, students should confer with the Director of Graduate Studies for the Department. Students not candidates for a degree may take courses offered if they have necessary prerequisites but may not count them toward a degree until an undergraduate major has been completed.

FIRST TERM (Duke Campus)

S1. ANIMAL BIOLOGY.—The principles of biology as applied to animals. Lecture, recitation and laboratory daily, 8:00-12:00, 2:00-4:00. 9.113. June 28-July 23. 4 s.h. MR. VERNBERG

S53. COMPARATIVE VERTEBRATE ANATOMY.—A study of the anatomy and evolution of the organ systems of vertebrates. Prerequisites: Zoology 1, 2. Lecture, recitation, and laboratory daily, 8:00-12:00, 2:00-4:00. 9.120. June 28-July 23. 4 s.h. MR. BAILEY

S353. RESEARCH. Hours to be arranged. 2-6 s.h. STAFF

FIRST TERM (Duke Marine Laboratory at Beaufort, North Carolina)

S274. MARINE INVERTEBRATE ZOOLOGY.—A study of invertebrate animals that occur in the Beaufort region. A number of field trips will be made to a variety of habitats to study, collect, and classify animals in their natural environments. The structure and habits of living invertebrates as well as their behavior under certain experimental conditions will be studied in the laboratory. 6 s.h. MR. BOOKHOOT

S353. RESEARCH. Hours to be arranged. 2-6 s.h. STAFF

SECOND TERM (Duke Campus)

S2. GENERAL ZOOLOGY.—A brief survey of the animal kingdom. Lecture, recitation and laboratory daily, 8:00-12:00, 2:00-4:00. 9.113. July 27-August 19. 4 s.h. INSTRUCTOR TO BE ANNOUNCED

S92. GENERAL EMBRYOLOGY.—The fundamental principles of embryology as illustrated in frog, chick, and mammal. Prerequisite: Zoology 53. Lectures, recitations and laboratory daily, 8:00-12:00, 2:00-4:00. 9.120. July 27-August 19. 4 s.h. MR. NACE

S353. RESEARCH.—Hours to be arranged. 2-6 s.h.

STAFF

SECOND TERM (Duke Marine Laboratory, Beaufort, North Carolina)

S203. MARINE ECOLOGY.—A study of marine animals in relation to environment. Consideration of environmental factors, succession, rhythms, communities, intraspecific and interspecific relations, productivity, conservation, problems, etc., concerned with animal life in the ocean. Lectures, reviews, conferences, field and laboratory work. 6 s.h. MR. GRAY

S245. RADIATION BIOLOGY.—An introductory course which will deal with the basic physical, chemical, and biological principles upon which the study of the biological effects of radiation is based. It will consist of three sections: Radiation Physics, Radiation Biochemistry, and Radiation Physiology. Laboratory work using various radiation sources and a number of organisms will give an opportunity to investigate these principles at first hand. Special lecturers will include members of the staff of the Biology Division of the Oak Ridge National Laboratory. Prerequisites: Mathematics through trigonometry, college physics, inorganic and organic chemistry. 6 s.h. MR. WILBUR

S353. RESEARCH.—Hours to be arranged. 2-6 s.h.

STAFF

Alumni Organizations



GENERAL ALUMNI ASSOCIATION: The Alumni Association of Duke University is composed of the former students of Duke University and its predecessor, Trinity College. The Association gives its annual dinner at Commencement, at which time the annual business meeting of the Association is held.

GENERAL ALUMNAE ASSOCIATION: The Alumnae Association of Duke University is composed of the women graduates and former students of Duke University and its predecessor, Trinity College. The Association joins with the Alumni Association in the annual dinner at Commencement. The annual business meeting is held during Alumnae Week End.

DUKE UNIVERSITY NATIONAL COUNCIL: The Duke University National Council is a working body for the alumni interests and maintains a constant supervision of alumni activities. It devotes its activities and efforts to advancing the welfare of Duke University by all appropriate means. Two meetings are held each year, one at Commencement and the other in the fall. The Council is composed of representatives from the various classes, local associations, students, faculty, parents, representatives at large, honorary members, officers of the General Alumni and Alumnae Associations, and representatives from the alumni and alumnae organizations of the professional schools.

ALUMNAE COUNCIL: The Alumnae Council was established by the General Alumnae Association in 1925. As the working organization of the group which established it, the Council endeavors to bind more closely the alumnae and the University and to advance the interests and aims of Duke University.

THE ALUMNI OFFICE: The General Alumni Office was organized to promote the work of the local alumni and alumnae associations and to co-ordinate the various activities of the General Alumni and Alumnae Associations and the Duke University National Council and Alumnae Council. Eighty county and local alumni associations have been formed in North Carolina and other states.

THE ALUMNI REGISTER OF DUKE UNIVERSITY: *The Alumni Register* of Duke University is a magazine published ten months of the year by the Alumni Association in the interest of the alumni and the University. It aims to keep the alumni in touch with one another and with the University.

THE ALUMNI NEWS: *The Duke University Alumni News* is sent to all alumni six times during the year.

Bureau of Public Information



The Bureau of Public Information is the official news agency of the University in the Department of Public Relations, and all University news emanates from this office. The Bureau maintains the University's relationship with the press and radio, and interprets the University—its faculty, its research and achievement—to the public via these media.

The Bureau also maintains individual biographical files on all faculty members and students, as well as files on all University departments and activities. Its files of clippings form a rich source of historical information of the Institution's life. In addition, the Bureau is a source of information for the many inquiries about Duke University which are received daily from all sections of the nation and from abroad.

Gifts and Bequests



DUKE University derives its principal support from endowment funds and from miscellaneous gifts and grants. Permanently invested capital funds enable the University to offer to students academic and professional training at a fraction of its actual cost. The effectiveness of the University is determined to a large extent by its financial resources.

Gifts and bequests devoted to the improvement of the work of the University will be received and administered by the trustees in accordance with the desires of the donor.

GIFTS. Any kind of property, real or personal, may be the subject of a gift and only such form as is required to pass title is necessary. If the gift consists of real property, the title will be passed by deed; if it consists of cash or unregistered bonds, the gift is consummated by delivery of the property; or if stocks, by delivery of properly endorsed stock certificates. Unless restricted, the use of gifts is at the

discretion of the Board of Trustees. Usually the proceeds, conservatively invested, are added to the permanent endowment of the University. The donor may, however, restrict the use of any gift and designate definitely the objects for which it shall be used. In such cases, the transfer of property would be accomplished by a letter or other documents describing in detail the objects for which the proceeds of the gift are to be used and when accepted by the University the term or conditions set out therein become binding upon it.

BEQUESTS. Bequests may be made to the University by an appropriate clause inserted in a will by codicil to a will already drawn. The following forms will serve as appropriate clauses for wills or codicils:

GENERAL

I give (devise; if real property) and bequeath to Duke University, a corporation existing under the laws of the State of North Carolina and located in the City and County of Durham, State of North Carolina, and its successors forever, the sum of dollars (or otherwise describe the gift) for the general purposes and uses of the University at the discretion of the Board of Trustees.

SPECIFIC

I give (devise; if real property) and bequeath to Duke University, a corporation existing under the laws of the State of North Carolina and located in the City and County of Durham, State of North Carolina, or its successors forever, the sum of dollars (or otherwise describe gift) and direct that the income therefrom shall be used for the following purposes, viz. (here describe the use desired).

CODICIL

Having hereinbefore made my last Will and Testament dated, and being of sound mind, I hereby make, publish, and declare the following codicil thereto; (here insert clause in same form as if it had been included in body of Will). Except as hereinbefore change, I hereby ratify, confirm and republish my said last Will and Testament.

Degrees and Honors

The following degrees were awarded June 6, 1955:

A.B. DEGREE

Virginia Jean Adams
Karl Vernon Albert
Ethel Vivian Alberts
Julia Alice Allen
Paul Joseph Allison
Helen Spratley Almand
Caroline Reeves Anderson
John Leroy Anderson, Jr.
Robert Strange Anderson
George Andrek
Jane Louise Aneshansel
William R. Arthur
George J. Baches
Charles Clarke Baker, Jr.
Paul Wilbur Baker, Jr.
Clarita Lee Ballard
Margaret Foreman Barber
Jane Claiborne Barger
Jerry Henry Barger
Orus Cleveland Barker, Jr.
William Roberts Barnard
William R. Barrett
Kimberly Alexandra Barrows
Douglas Roach Beard, Jr.
Charles Ronald Beaver
Robert H. Beber
Marjorie Anne Beckman
Guy Hibert Bennett, Jr.
Mary Elizabeth Benton
Peter Berlinghof
Paul Raymond Berrier
Albert Hartwell Best, III
James Ted Best
David Mansfield Beveridge
Adrian Ivoe Bruce Curtis Bird
Forrest Revere Black, II
Harold Thomas Black
William Hubbard Boardman
Elizabeth Anne Bowler
Dial Gray Boyle
Frances Ninnon Bramham
Annette Laetitia Brannon
Joan Kempton Brett
Richard Alan Brewer
Silas H. Brewer, Jr.
Elizabeth Mary Brittain
Alice Matheson Brooks
Susan Ruth Brooks
Mary Margaret Brown
Patricia Ann Brown
Robert Monroe Browning
Joseph DeVenny Brubaker, Jr.
David Barclay Bryan
William A. Buchheit
Muriel Jane Buesing
Jacqueline Burghard
Leonard Walter Burka
Raymond Francis Burke
Peter Courtland Burkholder
Peter Shepard Burr
Jo Ann Burrell
Patricia Swan Burrus
Jesse Henry Byrd, Jr.
Elizabeth Dixon Calkins
Frederick MacGregor Campbell, Jr.
Lawrence Emerson Case
Barbara Lee Cashwell
Hubert Edward Caulfield
Nelda Jeune Stanley Caulfield
Barnwell Rhett Chamberlain, Jr.
Robert Moye Chandler, Jr.

LeRoy West Chapin
Carol Hoke Chaplin
Carol Ann Chattin
Mary Jane Theresa Ciuci
Catherine Brogdon Clark
Robert Holmes Clayton
Dorothy Louise Clegg
Edith Pepler Clements
John Milton Clontz
Thomas Joseph Cogan, Jr.
Sherrill Alexander Conna
Elizabeth Darlene Conner
William Alvin Fletcher Conner, Jr.
Walena Dean Cooke
Richard James Copeland
Barbara Louise Corbeels
Jerry Scott Coslow
Carolyn O'Dell Couch
Maurice Nickola Courie
Gus James Coutilakis
Baraket Abraham Crady
Janet Louise Craigue
Jacquelyn Brownlee Creuser
Gloria Janet Criss
Dale Clements Critz
John Croll, Jr.
Henry Donald Crowley
William Francis Cummings
Wayne Ambler Cunningham
Martha Ann Curlee
Katharine Curry
Richard Dayton Dailey
Ralph Marshall Dark, Jr.
Judith Anne Davis
Richard Amos Davis
Nancy Lee Day
Arthur Robert DeBevoise
Peter de Cordova
Richard Lindsey Denison
Margaret Brown Deuschle
Ronald Wayne Dickson
Carl Joseph Dispenziere
Laura Williams Dixon
Claude Swanson Dodd, Jr.
Frederic G. Drozdowski
Lou Ann Unzicker Drummond
Charles Aubrey Dukes, Jr.
Sara Josephine Dula
Margaret Calvert Duncan
Deirdre Clare Dundas
Tessie Frances Dunham
Mary Flournoy Dunn
Kathryn Lord Dykes
Wildon Brooks Eaddy
James Donald Eagle
Jesse Samuel Eberdt, Jr.
Carl Norris Edwards
Ann Burnet Ehrhott
Elizabeth Cooper Elder
John David Ellington
Emil Palm Ericksen
Merle De Vere Evans, Jr.
Ernest Franklin Fary, Jr.
Carol Holton Fennell
Bruce David Fessenden
Joan Iris Fincher
David Johnston Fischer
Richard Edmund Fischer
Helen Bolling Foppert
Gordon Maxwell Forbes
Jacqueline M. deBligh Ford

Sadie Foy
 Paul Douglas Franklin
 Barbara Ray Freeman
 David Aaron Friedman
 John Rodney Fulcher
 William Morris Fuller
 Alma Craddock Furlow
 Thomas McCarley Garrou
 Lois K. Gartner
 Joanne Scott Gaston
 Willard Illingworth Gatling, Jr.
 Charles Hunter Gerhardt, Jr.
 Elizabeth Graham Getaz
 David Paxson Gibson
 Alta Ann Ginger
 Charles Rudy Gist
 Beverley Glass
 Sarah Suzanne Glassmire
 Banks Otis Godfrey, Jr.
 Richard Davis Goff
 Edwin James Gooch, Jr.
 Perry Godwin Gorham
 Betty Kathryn Graham
 William Lafayette Gray, III
 Benjamin Franklin Green, Jr.
 Jane Kathryn Greene
 Fayette Powers Grose
 Ira Dempsey Gruber
 Robert L. Gude
 Robert Miles Gunn
 Byron Charles Gwinn, II
 Shirley Ann Habel
 Robert Noel Hackett
 Jack Lee Hail
 Shirley Halton
 Janet Anne Halyburton
 Thomas George Hargitt
 Lyle Edward Harper
 Julia Anne Harrill
 Michael Hale Harrington
 Arthur Paul Hartel, Jr.
 Ralph R. Hathaway
 Shirley Anne Held
 Lillian Ann Henson
 Wilborn Moye Herring
 Kalman Robert Hettleman
 Shirley Anne Hildreth
 Carolyn Earle Hill
 Joan Barbara Hill
 Virginia Mae Hillman
 Robert Lewis Hirschfeld
 Peter Franklin Hochreiter
 Betty Lou Hoffman
 Robert Elmer Holmes
 Ava L. Honeycutt, Jr.
 Laura Margaret Hoppe
 John Thomas Horan
 Gery C. Houlihan
 Charles Wooster Howard, Jr.
 Lucile Dickson Howe
 George Dudley Humphrey, Jr.
 William Barney Huntley, Jr.
 Tom Huston, Jr.
 Cynthia Impey
 Stephanie Diuguid Ira
 Richard Dreux Jackson, Jr.
 Arlene Myra Jacobson
 Charles Henry James
 Lydia Drucilla Jefferson
 Albert Tyson Jennette
 William Shaw Jennette, Jr.
 Louis Paschal Jervey, Jr.
 John Johns
 Ann Parker Johnson
 James Bunyan Johnson
 James Russell Johnson, Jr.
 Lorraine Jeannette Johnson
 Randall Thomas Johnson
 Charles Edgar Johnston
 George Johnstone, III
 Betty Bonner Jones
 Oliver Lee Jones, Jr.

Richard Butner Jones
 Harold Leon Kadis
 Richards Wenzel Kaiser
 Janie Dickson Kale
 Arthur Kaufman
 Flora Joyce Kee
 Margaret Webb Keels
 Eugene Rogers Keever
 Robert D. Kehoe
 Mary George Kelly
 David Musick Kennedy
 Andrew Finley Key, III
 Richard Beaman Killen, Jr.
 Joan Houston King
 Cornelia Harris Kneeder
 Franklin John Koonts
 Martha Kelly Kornegay
 Jean Jackson Kramer
 Richard Miller Kreutzer
 Frederick Joseph Kuhnert
 Howard F. Lamley, Jr.
 Dorothy Lee Williams Lamson
 Peter Edward Landau
 Kathleen Elspeth Landon
 Daniel Lane, Jr.
 Emmett Durham Lawshé
 Claude Peter Ledes
 Josephine Anne Lee
 William Chalker Lee
 Judith E. LeFever
 Helen Ann Lorian
 Kathryn Fontaine LeSturgeon
 Fred Williamson LeVan
 Kenneth Dickinson Lighthipe
 Rodger Lindsay
 Doris Ann Lineberger
 Johannes R. Hans Lischka
 James Delona Lloyd
 Laurence William Lloyd, Jr.
 Herbert Kingsley Lodder
 Edith Black Long
 William Gerard Louis-Dreyfus
 Martha Louise Ludwick
 David Herman Luellen
 Worth Arthur Lutz, Jr.
 Janice Nadine Lyon
 Donald Frazier Mabe
 Elizabeth Haynie Maben
 William Franklin Mabry
 Ronald Collin MacLeod
 Sally Anne Macomber
 Barbara Brown Mallard
 George Kenneth Manning
 Phyllis Elaine Marion
 Paul Webb Markwood, Jr.
 Charles Thomas Martz
 Betty Blomquist Matthews
 Billie Ann Maus
 Daniel Hugh Maxwell
 Donald Maxwell
 Thomas Cortez Maynor, Jr.
 Dorothy Umstead McCaleb
 Ann Elizabeth McCall
 Charles Pearen McClellan
 Dorothy Jane McClure
 Ann Stevens McDougale
 Gail Cable McGiehan
 Ann Graham McJimsey
 Roy Nixon McKeithan, Jr.
 Homer Adkin McNeely, Jr.
 Cameron S. McRae
 Marian McSurely
 Molly Lou Meffert
 Stanley Melchers
 Edwin Shedd Michaels
 Charles Samuel Miller
 Don Forest Mills
 James H. Milsap, Jr.
 Hugh Meglone Milton, III
 Nancy Templeton Ming
 Glenwood Jefferson Mitchell, Jr.
 Hazel Irene Mixon

- Carl Douglas Monk
 Tracy Leon Moon
 Jane Ferree Morgan
 William Reginald Moss
 Jon Cameron Moyle
 Constance Elizabeth Mueller
 Sarah Frances Mull
 Judith Christine Murdock
 Robert Louis Mutter
 Alonzo Harrison Myers, Jr.
 Ann Adelle Myers
 Jeanne Kathryn Myers
 William Neale
 Betty Boyd Newberry
 James Watson Newbill
 Margaret Barkla Newcomb
 Nell Bernard Newell
 Thomas D. Newell, III
 Eva Joan Newlin
 Francis Alexander Nichols
 Carole Rich Nicholson
 Betty Page Northington
 Carolyn Clarke Nuite
 Joan Abbey Oldberg
 Richard Carl Oliver
 LaVern Olney
 Margaret Jane O'Neal
 Patrick Clifford O'Shee, Jr.
 Nina Abrahams Ost
 Richard Franklin Outcalt, Jr.
 Joseph Louis Overton
 Jere Marr Ozment
 John Elisha Palmer, Jr.
 Charles Edward Pardoe
 David Preston Parker
 Diuguid B. Parrish
 Ann Read Patrick
 John Earle Patrick
 Janet Lee Peksa
 Allan Briggs Pell
 Sarah-Warner Jenkins Pell
 Herc Joseph Pensa
 David Bruce Perkins
 Jane Shipley Perry
 Richard Ross Pierson
 Kathryn Plummer
 Arnold Harris Pollock
 Pauline Griffin Pope
 John Roger Poppenberg
 Eric Davis Potter
 Mary Ann Powell
 George Byrne Pressly
 Edward Reynolds Price
 Grady Edwin Price
 Jack Lawrence Pyle
 Helen Davis Quillin
 Hettie Louise Raiford
 Mary Madison Ramseur
 Sally Houston Read
 Elizabeth Anne Ritch
 George Parks Robinson
 Sally Dalton Robinson
 George D. Rodgers
 Nancy Cornwell Roehm
 Max Gray Rogers
 Alfred Donald Roth
 Beverly Jean Rowlain
 Rudolf Alfonse Ruda
 Don James Russell
 Mary Jane Rutherford
 Warren Newton Sams, Jr.
 Joe Sanchez, Jr.
 Virginia Ann Sanders
 Eaton Dudley Sargent
 Nancy Ellen Saunders
 John H. Saylor, Jr.
 Horace Forsyth Scharges
 Peter H. Schiller
 David M. Schimmel
 Helga Louise Schmitz-Mancy
 Edwin Bruce Schneider
 Frank Leroy Shaffer
 Patsy Shuford
 Mary Elisabeth Shuman
 William Powell Simmons
 Russell C. Skerrett
 Charles Elton Smith, II
 George Peter Smith
 Phillip Don Smith
 Suzanne Smith
 Talbot M. Smith
 Frances Cater Snow
 Allan David Snyder
 Ann Wall Snyder
 Alan Mitchell Solow
 John Thom Spach
 Victoria Earle Stedman
 Samuel S. Stephenson
 Anne English Stewart
 Burton Gloydne Stewart, Jr.
 Mary Wardlaw Stewart
 Patricia Ann Stewart
 Jules Norman Stiffel
 Barbara Jean Stott
 Lockwood Dexter Street
 William Ruffin Strickland
 George Tadeush Strzetelski
 Catherine Joyce Styrton
 Richard H. Sugar, II
 Norma Cynthia Summerrow
 Letty Lauffer Swan
 Stantine Wilkinson Tafel
 Lawrence Bruce Taishoff
 Mary Sargent Temple
 Henry Lee Thacker, Jr.
 John William Thomas, Jr.
 Norwood Anderson Thomas, Jr.
 William Alan Thomas
 Herrick Sackett Thompson
 Frederic C. Thum, II
 Angelo Charles Tisi
 George Newby Toms
 Ralph D. Torrance
 Paul Gene Toxie
 Robert Richard Trevarthen, Jr.
 Daniel Trimmer, IV
 Eleanor Brooke Tucker
 Robert Lawrence Ulrich
 Carolyn Cannaday Uzzell
 Richard Albert Van Ness
 Joseph Lynwood Vaughan
 Frank Stanley Virden
 Mary Ann Waldrop
 Carol Kennedy Walker
 Harrison Henry Walker
 Charles Lavon Ward
 Elizabeth Arnold Webb
 Robert Doughty Weeks, Jr.
 Murray Blair Weil, Jr.
 John Arthur Werback
 Ruth Elaine Westcott
 Betty Sue White
 Douglas Whitlock, II
 Earl Louis Wiener
 Ernest Gilchrist Wigfield, Jr.
 Joseph Hamilton Wilkinson
 Cecil Harvey Williams, Jr.
 Grace Ellis Williams
 Mary Anne Barker Williams
 Max Ray Williams
 Robert Harrison Williams
 Mary Martin Williamson
 Anne Elizabeth Wilson
 Frances Mae Wilson
 Milner Bradley Wilson, III
 Richard H. Wilson, Jr.
 Jo Anne Withrow
 William Sander Woldin
 Virginia Claire Woolley
 William Isler Wooten, Jr.
 Charles Williamson Wray, Jr.
 Elizabeth Anne Wright
 Edward Lisk Wyckoff, Jr.

Richard Zelter
Edward William Ziegler

Joseph Zimmerman
Mary Mathilda Zimbaum

B.S. DEGREE

Carl Wilfrid Bitzer
Marion Elizabeth Blanton
Dennison Robert Brown
Deborah Berry Chesnut
William Scott Chilton
William Frederick Cordes, III
Dana Kay Kerr Dahl
Ernest Mills Dumas
James McFerrin Fullton, Jr.
William Peter Geissler
Marcus Herndon Goforth
Patricia Louise Hensler
Ann Coffeen Holton
Marks Daughtry Hudson

John Constantine Jurew, Jr.
Faith Himrod Lassiter
Richard K. Lindquist
Calvin Wesley Matheny, Jr.
James G. McNally, Jr.
Alfred L. Mowery, Jr.
John Burton Nowlin
William Clopton Perkins
Robert Andrew Pickens
Herman Postma
Kedar Davis Pyatt, Jr.
Richard Frederick Sweeton
Guy Forrest Woodlief, Jr.

B.S. DEGREE IN MEDICAL TECHNOLOGY

Shirley Elizabeth Andrews
Mayme LaNelle Edwards
Frederick William Longbine
Nancy Holt McPherson

Norma Jean Neil
Elizabeth Anne Rogers
Margaret Ann Tyson
Janet Louise Webster

B.S. DEGREE IN NURSING EDUCATION

Amy Naomi Frye
Katherine Mary Hogan
Margaret Ann Jaeger
Mildred Alfie Mason
Ella Dunn McColl

Eva Oldham Reese
Minnie Gray Thacker
Catherine Parks Wallace
Mary Wilson Lamond Wilson
Gertrude E. Wodock

B.S. DEGREE IN CIVIL ENGINEERING

Fred Cutler Aldridge, Jr.
William Allison Baxley
Jack Lee Corley
Frederick Chatman Farmer
Norwood Jack King
Richard Maxwell

Herbert James Murphy, Jr.
William Shelby Reaves
William Alton Russell, Jr.
John Dawson Stone
David Lloyd Wagner

B.S. DEGREE IN ELECTRICAL ENGINEERING

John Henry Calhoun, Jr.
Alan Carré Elston
Samuel J. Fisher, Jr.
Rhett Truesdale George, Jr.
Lyman William Griswold
Edward Arden Hamilton
Burton Eugene Hannay
Billy Marius Hansen
Oscar Taylor Hines, Jr.

John Robert MacEwen
William Lemuel Ragsdale
Charles Ernest Seager
George Sherrerd, III
Donald Lloyd Stegner
Edward Vernon Stephenson
David Bruce Young
William Bell Zollars

B.S. DEGREE IN MECHANICAL ENGINEERING

Dan Eddins Bellinger
Frank Lee Blue, III
Richard Nevin Bollinger
Moritz Bukowitz
John Wilcox Caldwell
Robert Miller Chambers
Frederick Rufus Crawford
David Powley DeWitt
Walter Dickinson
Harold Conrad Ferree
Thomas Reynolds Foard
Douglas Chester Harrison
Norman James Hart
Jerry Russell Haupt
Richard Shih-Chiu Huang
Carroll T. Hughes, Jr.
Franklin Arthur Kay
Richard Joseph Kraus
John Elmer Larsen

Howard Rae Lasher, Jr.
George Bryant M. Lawrence, Jr.
Robert Francis Leclercq
Robert William Little
Blair Henry Mathies
Michael Boyd Miller
Ray Mortimer Olds, Jr.
John Beveridge Parkerson
Paul Walburton Pritchard, Jr.
Henry Christian Reiner, Jr.
Robert Koerberle Rose
John Lee Schmitt
Charles Eugene Slater
John Gerald Snyder
Walter Spooner Underhill
Peter Payne Van Blarcom
Donald Reeves Whitaker
Gerard Everett Woodbury

DIPLOMA IN NURSING

Julia Jane Agner
Alena Ann Anderson
Mary Jo Arena
Betty Marrilene Baker
Betty Jo Boyd
Doris Jean Bullock

Claire Audrey Endictor
Harriet Lefebvre Gillies
Margaret Jones Gorham
Betsy Gene Greear
Sally Grant Groby
Gladys Hall Hayworth

Marjorie Deane Hicks
June Handley Howell
Margaret Ann Jackson
Frances Dixon Jones
Mary Brewer Jones
Margaret Joyce Land
Allie Lou Lassiter
Elizabeth Anne Lerda
Sherry Anne McKay
Barbara Dale Matthews

Barbara Frances Moore
Edith Ann Moore
Grace Maxwell Nielsen
Evelyn Joyce Parker
Secunda Clyde Parker
Emma Elizabeth Paschall
Phoebe Ann Ray
Rosalie Patricia Sullivan
Ruthanna White

Roman Lee Patrick

B.S. DEGREE IN MEDICINE

Donald Silver

Joan Avery Bevington
Mary Alice Summers

A.M. DEGREE IN TEACHING

Anna May Tillou
Lois Hutchinson Vick

Martha Gertrude Croft

M.R.E. DEGREE

Kyung-II Mah

Arthur Edward Justice

M.ED. DEGREE

Myron William Miller

George Wesley Bengtson
David Emerson Brooks
Thomas David Glass
Frederick William Haeussler
Andrew Ray Jeffries
Herbert Marvin Kulman
Robert Joseph Marty
William Frank Miller, Jr.
Harold Lawson Olinger

M.F. DEGREE

Raimund Piirvee
Marion Whitney Ritter
Alan Ross Roberts
Theodore Gould Scher
Harold Fuller Whitaker
Fred Myerle White, III
Raymond Henry Worst
James Dillard Zimmerman

James Carroll Atkinson
Annabelle B. Barnes
William Thomas Blackstone
Mary Blair Bowers
Mark Allen Brubaker
Nelle Ada Carter
William Guestion Carter, Jr.
Clyde Henry Dornbusch
Virginia Craig Downs
Jesse Caldwell Fisher, Jr.
Gordon Query Freeman
Mollie Finkel Fridovich
John Sedgwick Fry
Otomi Fujii
Arthur Samuel Gillespie, Jr.
Edgar Bryan Gillespie
William George Harrington
Irene Hasenberg
Wilbert Joseph Heffernan, Jr.
Helen Sherman Hester
Christiane West Kaplan
William Watkins Kelly

A.M. DEGREE

Julanne Lynn
Maung Than Nyun
Lawrence Edwin Padgett
Stephen Curtiss Paine
Jack Eugene Patty
Frederic Adams Pennington
Carmen R. Rossy-Valderrama
Ray George Smith
Dumrong Soonthornsaratoon
Alva Ware Stewart
Manley Stillwell Stockton
Gilbert Leinbaugh Sward
Marvin Tetenbaum
Haig Vartanian
Robert David Warren
Albert Ernest Wilkerson, Jr.
Robert Milton Will
Elizabeth Camille Williams
Lutrelle Angel Wishart
James Harschel Wyman
Thomas Walter Younker
Bettie Anne Young

Louis Allon Aitken
Paul Wesley Aitken
John Stephen Bird
Lawrence James Bridges
William Warren Butler
David Morrill Cowart
Richard Joseph Crowder
Clarence P. Dalton
Joe Lane Ervin
Donald Earl Fagan
Allyn Johnston Fisher
Philip Hamilton Gibbs
Ernest Ray Goodwin
Edwin Atwater Hackney
Billie Allen Haire
Earl: Ross Haire

B.D. DEGREE

Emmett Ernest Hiatt, Jr.
Charles Earl Johnson, Jr.
Kenneth Marshall Johnson
John Herbert Kamps
Marvest A. Lawson
Pearce H. Layfield, Jr.
Julian Hampton Lazar
Max Kearns Lowdermilk
James Granville Martin
Louise McIntyre
John Lloyd McWhorter
Boyce Conway Medlin
George Dewey Porter, Jr.
Edwin William Rogers, Sr.
Donald Edward Rollins
James Wallace Rush

Frank Eugene Shuler, Jr.
James Walton Spitzkeit
Ben F. Stamey
Thomas B. Stockton
Wilbur Edgar Thomas
George Hart Tyson

William Kenyon Waits, Jr.
C. Reginald Walton
Wayne Gordon Wegwart
Frank Edward Wier
Raymond Lee Wilkinson
Harold Jackson Wilson

LL.B. DEGREE

Hans W. Baade
William Goebel Bell, Jr.
Trent Calvin Bowen
Melvin Thomas Boyd
William Dennis Branham
Forrest Edwin Campbell
John Anderson Carnahan
John William Coleman
Alton T. Cummings
Sidney Chris Franzblau
J. Peter Friedrich
Robert Myron Frisch
David Coburn Goodwin
Raymon Jenkin Hahn

Sanford I. Halberstadter
John Frederick Kuffner
Donald Walcutt Mitchell
Joseph Charles Reynolds
Bayard B. Sellars
David Shapiro
Theodore Allen Snyder, Jr.
Fred Henry Steffey
Edward Nathaniel Swanson
Joel Brundage True
C. Wallace Vickers
Clarence Wesley Walker
Roland Robert Wilkins
William Leon Woolard

LL.M. DEGREE

Charles McAlister Culver

M.D. DEGREE

Gerald Laurence Alexander
David St. Pierre Asbill, Jr.
Norman Howard Bell
Paul Clifford Bennett, Jr.
Mary Caroline Bercovitz
William Murphy Bethune, Jr.
Edward Martin Bjerk
Lawrence Michael Blum
Michel Bourgeois-Gavardin
William Lee Bourland
Charner Williams Bramlett
Sidney Breibart
Benjamin Earl Britt
Rufus Sisson Bynum
David Harold Carver
Frank Harry Chamberlin
Joseph John Combs, Jr.
David Emerson Cowan
Thomas Harold Crowder, Jr.
Horace Ballard Cupp, Jr.
Arthur Kahil David, Jr.
Robert Guy Deyton, Jr.
Herbert Trice Dukes
John Lovelace Farmer, Jr.
Norman Albright Fox, Jr.
John Pratt Gore
Tom Winfield Gore
John Ashley Goree
Claude Benjamin Goswick, Jr.
Fredrick William Graham, Jr.
John Douglas Graham
Liam Haim
Margaret Wehr Hilgartner
Gordon Henry Ira, Jr.
Joseph McCraw James
Robert Earl James, Jr.
Allen Nathaniel Jelks
Harry Wallace Johnson
Cyrus Conrad Johnston, Jr.

Edward Lenoir Jones
Robert Eugene Kinneman, Jr.
William Steve Lang, Jr.
John Thomas Langley
Quintus Aden Langstaff
Robert Andrew Leslie
Harold Pons Lipton
Fred Harold Mandrick
Eurid Reid McAuley, Jr.
Ben Waring McCall
Charles Richard Merwarth
David Crerar Mitchell
Beverly Carver Morgan
Charles Bodine Neal, III
John McClellan Ocker, Jr.
Amos Townsend Pagter, Jr.
John Arthur Pierce
John Wesley Reeves, Jr.
Donald Eugene Saunders, Jr.
Sam Silbergeld
Donald Silver
Harold Simon
John Burton Sledge, Jr.
Marvin Benton Slocumb
Richard Bowden Smith
John Wesley Snow
Robert Worth Steagall, Jr.
Thomas Angier Stokes, Jr.
Everette Lester Taylor, Jr.
Thomas Byron Thames
Edite Vitols
David Earl Watson
Bryan Clinton West, Jr.
Eugene Overbey Wiggs
Robert Matthew Wiita
Buna Joe Wilder
Dana Steeves Williams
James Morningstar Young

ED.D. DEGREE

Charles Buchanan Johnson

Charles Raebeck

D.F. DEGREE

Harold Willetts Hocker, Jr.

Donald Walton Lynch

PH.D. DEGREE

Charles Marvin Allen
William Bryant Ard, Jr.
Dorothy Anne Johnson Beavers
Leo Earice Beavers
Wallace Raymond Brasen
Luther Kennedy Brice, Jr.

Emily Virginia Schmitt Bryan
Charles Andrew Burrus, Jr.
John William Carlton
Dewey Kenneth Carpenter
John Victor Chamberlain
Robert Bennie Channell

John DeForest Costlow, Jr.
 Samson Arthur Cox
 George Riley Edwards
 Irwin Fridovich
 Andrew Joseph Glaid, III
 Walter Isaac Goldberg
 William Curtis Grayson, Jr.
 Maire Tellervo Hakala
 Jesse Graham Harris, Jr.
 Stuart Clark Henry
 William Lawrence Highfill
 Grimsley Taylor Hobbs
 John Herbert Hodges
 Frederic B. M. Hollyday
 Charles William James
 Allen Saunders Johnson
 Weyland Thomas Joyner
 Roy E. Jumper
 Alan Keith-Lucas
 Ramon Marcelino Lemos
 Nancy Dorothea Libby
 Fred Henry MacIntosh
 Harry Stockwell Manley
 Edwin Mansfield
 Lewis J. McNurlen
 Robert A. Micheli

James Gordon Murray
 Kai Edward Nielsen
 Lawrence Everman Noble, Jr.
 Linwood Elden Orange
 James Reid Patterson
 Charles Edward Ratliff, Jr.
 Clyde Henry Robertson, Jr.
 Alexander F. Rosenberg
 Morton Rosoff
 Joseph C. Rupp
 Horace Lewis Sawin
 Chung-wen Shih
 William Rodger Smythe, Jr.
 David Benbow Stafford
 Elizabeth Jane Stucky
 Marion Jack Suggs
 Kenneth Merwin Taylor
 Bruce Earle Teets
 Harold Stanley Thames
 A. Louis Toller
 David Heading Bartine Ulmer, Jr.
 Leon Bryan Walker, Jr.
 Anthony Winston
 Arthur Bruce Winter
 Sheldon Paul Zitner

COMMISSIONS IN UNITED STATES NAVY AND UNITED STATES MARINE CORPS

Ensign, United States Navy, NROTC

Dan Eddins Bellinger
 Dennison Robert Brown
 Joseph DeVenny Brubaker, Jr.
 Moritz Bukowitz
 Raymond Francis Burke
 John Wilcox Caldwell
 Dale Clements Critz
 Arthur Robert DeBevoise
 Ronald Wayne Dickson
 Jesse Samuel Eberdt, Jr.
 Frederick Chatman Farmer
 Thomas Reynolds Foard
 Perry Godwin Gorham
 William Lafayette Gray, III
 Ira Dempsey Gruber
 Byron Charles Gwin, II
 Robert Noel Hackett
 Jerry Russell Haupt
 Oscar Taylor Hines, Jr.
 George Dudley Humphrey, Jr.
 William Barney Huntley, Jr.

Richard Dreux Jackson, Jr.
 George Johnstone, III
 Harold Leon Kadis
 George Bryant M. Lawrence, Jr.
 Rodger Lindsay
 Michael Boyd Miller
 Eric Davis Potter
 George Byrne Pressly
 William Lemuel Ragsdale
 Horace Forsyth Scharges
 Charles Ernest Seager
 Charles Elton Smith, II
 Alan Mitchell Solow
 Donald Lloyd Stegner
 Edward Vernon Stephenson
 Jules Norman Stiffel
 Alex Ogden Taylor, Jr.
 Max Ray Williams
 Gerard Everett Woodbury
 Edward Lisk Wyckoff, Jr.

Second Lieutenant, United States Marine Corps, NROTC

Karl Vernon Albert
 William Allison Baxley
 Samuel J. Fisher, Jr.
 Billy Marius Hansen

Tracy Leon Moon
 Rudolf Alfonse Ruda
 Walter Spooner Underhill
 Milner Bradley Wilson, III

Second Lieutenant, United States Marine Corps, Platoon Leaders Class

Silas H. Brewer, Jr.
 Charles Hunter Gerhardt, Jr.
 Peter Franklin Hochreiter
 Charles Edgar Johnston
 Howard F. Lamley, Jr.

Worth Arthur Lutz, Jr.
 Jon Cameron Moyle
 John Elisha Palmer, Jr.
 Peter Payne Van Blarcom

COMMISSION OF SECOND LIEUTENANT, UNITED STATES AIR FORCE

Paul Joseph Allison
 Robert Strange Anderson
 William R. Barrett
 Robert Moye Chandler, Jr.
 LeRoy West Chapin
 Frederick Rufus Crawford
 William Francis Cummings
 Richard Dayton Dailey
 Peter de Cordova
 Walter Dickinson
 Claude Swanson Dodd, Jr.
 David Johnston Fischer
 David Paxson Gibson
 Charles Rudy Gist
 Edwin James Gooch, Jr.
 Edward Arden Hamilton

John Thomas Horan
 Tom Huston, Jr.
 James Russell Johnson, Jr.
 Richards Wenzel Kaiser
 Franklin Arthur Kay
 Eugene Rogers Kever
 David Musick Kennedy
 Norwood Jack King
 Richard Miller Kreutzer
 Emmett Durham Lawshé
 Fred Williamson LeVan
 Ronald Collin MacLeod
 Charles Thomas Martz
 Blair Henry Mathies
 Donald Maxwell
 Richard Maxwell

Charles Samuel Miller
 Hugh Meglone Milton, III
 Donald Walcutt Mitchell
 William Reginald Moss
 Allan Briggs Pell
 Arnold Harris Pollock
 William Alton Russell, Jr.
 Eaton Dudley Sargent
 John Lee Schmitt

William Powell Simmons
 Charles Eugene Slater
 Joel Brundage True
 Robert Lawrence Ulrich
 David Lloyd Wagner
 Earl Louis Wiener
 Richard Zelter
 William Bell Zollars

The following degrees were awarded September 1, 1954:

A.B. DEGREE

Jean Bassett Alexander
 Norna Anne Barnes
 Philip Jackson Baugh, Jr.
 Ted Hartley Bishop
 Marilyn Elizabeth Black
 Ralph Lane Bobbitt, Jr.
 Glyn Saunders Bolton
 Joan R. Brown
 James Lawson Bryan
 Sarah Clark Bullard
 Carroll Cass
 William Mynell Clarke
 Elizabeth Therese Crain
 Robert Erwin Dalton
 Henry Joseph Dickman, Jr.
 Peter Smith Edwards
 Herbert Clinton Field, III
 Frederic Wilson Fuller
 Joseph Milton Gaither, III
 Herbert Stelwyn Gates, Jr.
 Robert C. Gilbert, Jr.
 Coburn Gum
 Vincent Thomas Hall
 John Colvin Hamilton, Jr.
 Terrence E. Hanner
 Perry Wilburn Harrison
 Virginia Frank Herring
 Richard Baxter Hood
 Henry du Bignon Howard
 Fleming James, III
 Bernard Aloysius Janicki

William Earl Kesler
 Fay Ann Knickerbocker
 Peggy MacMillan Lucas
 Paul E. Lucey
 Mary Lou Lyon
 Rebecca Yost McCutchan
 George Mann McMartin
 Mary Patricia Morgan
 Richard Armstrong Northrop
 Manton Marble Oliver
 Robert John Penberthy
 Thomas Peters
 George Homer Porter, III
 James Stirling Price
 Lisle Frederick Rath
 Donald J. Richardson
 Carmen John Rodio
 Lester Bond Sandoe, Jr.
 Emily Vaughan Sheffield
 Margarita Park Sherertz
 Hugh M. Shingleton
 Stanley B. Stevens
 John William Stone
 Joseph Sarber Stone
 A. Trainum Sunfield
 Ronald Wilson Sydenham
 Sallie Winegeart Tapley
 John Bibb Tate, Jr.
 Emerson McLean Thompson, Jr.
 Paul Joseph Upstad
 Henry Clay Walling, Jr.

B.S. DEGREE

William David McRoy, Jr.

Robert Irwin Rosen

B.S. DEGREE IN MEDICAL TECHNOLOGY

Lois Isabelle Snyder

B.S. DEGREE IN NURSING EDUCATION

Lena Belle Bazemore
 Betty Sue Johnson
 Natalie Brewster Lavin
 Rita Rivers Moore

Anna Cooper Painter
 Thelma Anne Smith
 Esther Mae Swinehart

B.S. DEGREE IN CIVIL ENGINEERING

Warren E. Meyer
 Roland Andrew Schmidt

Edward B. Stout

A.M. DEGREE IN TEACHING

Imogene Faye Lipscomb
 Mary C. Nypaver

Ruby Rebecca Rumley

M.ED. DEGREE

Edith Lenore Larson
 Ethel M. McDonald

Ella Whitted Parks
 Katharine Whitten

A.M. DEGREE

Nikolaus Bruck
 Clara Annie Beck Childs
 Hilda Cohen
 Harry Herbert Corson, III
 Willard Badgett Gatewood, Jr.
 Joseph Tex Gilbert, Jr.
 Katherine Powell Hinds
 Barbara Louise Jones
 Johann Karl Kandlbinder

Joseph Patrick Leahy
 Theodore Frederick Morse
 George B. Perkins, Jr.
 Roger Edwin Sappington
 Edgar Eudell Sutley
 David Linn Trout
 Joanne McCurdy Widom
 Annette Veva Willcox
 Robert Ross Wright, III

LL.B. DEGREE

Janet Hart

DUKE UNIVERSITY

HONORS AND PRIZES

Summa cum laude

JUNE 6, 1955

Herman Postma
Edward Reynolds Price
Norman James Hart
Guy Forrest Woodlief, Jr.

Max Gray Rogers
William Scott Chilton
John Beveridge Parkerson

SEPTEMBER 1, 1954

Rebecca Yost McCutchan

Fay Ann Knickerbocker

Magna cum laude

JUNE 6, 1955

Molly Lou Meffert
Ronald Wayne Dickson
Suzanne Smith
Carol Hoke Chaplin
Patricia Ann Brown
Ann Coffeen Holton
Thomas Joseph Cogan, Jr.

Sally Dalton Robinson
Barbara Louise Corbeels
David M. Schimmel
Rhett Truesdale George, Jr.
Tom Huston, Jr.
Charles Clarke Baker, Jr.

SEPTEMBER 1, 1954

George Homer Porter, III

HONORS IN DEPARTMENTS AND SCHOOLS

DEPARTMENT OF AIR SCIENCE

DISTINGUISHED MILITARY GRADUATES

Richard Dayton Dailey
Tom Huston, Jr.
Norwood Jack King

William Alton Russell, Jr.
Earl Louis Wiener

SCHOOL OF LAW

Order of the Coif

Clarence W. Walker
William G. Bell, Jr.

Hans W. Baade

Graduated "With Distinction"

Clarence W. Walker
William G. Bell, Jr.

Hans W. Baade
Theodore A. Snyder, Jr.

Willis Smith Prize—Clarence W. Walker

SCHOOL OF MEDICINE—Election to Alpha Omega Alpha, Honorary Medical Fraternity

Norman Howard Bell
Herbert Trice Dukes
Tom Winfield Gore
Robert Earl James, Jr.
Allen Nathaniel Jelks
Charles Richard Merwarth
Beverly Carver Morgan

Charles Bodine Neal, III
John Wesley Reeves, Jr.
Donald Eugene Saunders, Jr.
Donald Silver
Thomas Byron Thames
Buna Joe Wilder
James Morningstar Young

SPECIAL HONORS AND PRIZES

The Robert E. Lee Prize

Worth Arthur Lutz, Jr.

Anne Flexner Memorial Award in Creative Writing

Miki Odessa Southern

Freshman English Prize

Edward Doughtie

Amanda McConnell

Julia Dale Prize in Mathematics

Norval Fortson

Sidney Lineker, Jr.

Woman's Panhellenic Scholarship

Polly Price

Alice M. Baldwin Scholarship Award

Claire Marcom

Polly Price

Ann Corpening

Margie Applebee

J. Nelle Gibson

Hilda Fisher

Evelyn Barnes Scholarship

Deborah Welt

Durham County Alumnae Scholarship

Shirley Davis

William Senhauser Prize

Robert Emmett Moynihan

Erasmus Club Prize in the Humanities

Virginia Mae Hillman

Edward Reynolds Price

The Milmmow Prize

George Sherrerd, III

Alpha Kappa Psi Scholarship Award

Ronald Wayne Dickson

Delta Delta Delta Scholarship Award

Claire Marcom

*North Carolina Association of Certified Public**Accountants Award*

Tom Huston, Jr.

Phi Lambda Upsilon Award

Philip E. Shaw

Alaernon Sydney Sullivan Awards

Elizabeth Mary Brittain

Carl Norris Edwards

Merck Award in Chemistry

Philip E. Shaw

Leonard H. Brubaker

The Florence Nightingale Alumnae Plaque

Margaret Ann Jackson

Bagby Award in Pediatrics

Sherry Anne McKay

The Moseley Award

Betty Jo Boyd

Borden Undergraduate Research Award in Medicine

Donald Silver

The Mosby Prizes

Allen Nathaniel Jelks

Charles Richard Merwarth

Beverly Carver Morgan

Donald Eugene Saunders, Jr.

Donald Silver

Merck Award in Medicine

Tom Winfield Gore

Thomas Byron Thames

American Academy of Dental Medicine Award

Horace Ballard Cupp, Jr.

TRINITY COLLEGE

FRESHMAN HONORS

Students listed according to average

Thomas Frank Camp, Jr.
 Robert Morrow Longworth
 Thomas Arthur Baylis
 Donald Smiley Burdick
 Joseph Edward Shrawder
 Gordon Hearst Rosser, Jr.
 Joseph Carr Eggleston
 William George Meffert
 Benjamin Bridges, Jr.
 George William Domhoff, Jr.
 Norman Doan Peterson
 Thomas Anderson Callcott

Lynn Fort
 Danny Brigman Jones
 David Lewis Nealy
 Leland Ernest Reaney, Jr.
 Edward Orth Doughtie
 Robert Henry Greene
 Jack Caldwell Williams
 Howard H. Berman
 Harry England Trantham
 Edward Norval Fortson
 James Dailey Barker, Jr.
 Fred Roukos Sheheen

SOPHOMORE HONORS

Charles Ernest Friend
 David Michael Young
 Charles Henderson Dickens
 David McKechnie Hay
 Harry Stewart Havens
 Harvey Samuel Halberstadter
 John Arthur Paar

Walter Victor Weyhmann
 Walter Robert Fallaw, Jr.
 Howard R. Bloch
 William Cobb Lane
 Stephen Denio Baker
 Carl Harold Weber, Jr.
 Donald Dwight Duffey

JUNIOR HONORS

Thomas James Gillerist
 Robert Warren Nordan
 Verne Strudwick Caviness
 Kenneth Edwin Mayhew, Jr.
 Nathan Richard Skipper, Jr.
 Joseph Douglass Robinson, Jr.
 William Thomas Harrison
 Charles Narry Griffin, Jr.
 Leif Christian Beck

Lorne Franklin Hall
 Willard Drawn Frederick, Jr.
 Harold George Kledaras
 Myron Finley Maxson
 Alvin Benis Fox
 Joseph Ward Kurad
 Newton Clark McCollough
 Arley Joe McCreery
 Edward Hardin Smith, Jr.

WOMAN'S COLLEGE

FRESHMAN HONORS

Constance McKnight Malmar
 Julia Adair Foster
 Susan Gavriella Brunner
 Margaret Catherine McLean
 Mary Irving Carlyle
 Deborah Welt
 Mildred Stewart Crinkley
 Tamra Irvin Cooper
 Carol Janet Skillin
 Elizabeth Bailey Davis
 Carolyn May Brimley

Jean Dickinson
 Elinor Jane Perry
 Louise Jacobson
 Phyllis Mary Bartlett
 Anna McLester French
 Anne Townsend Thomas
 Arlene Esta Segal
 Pauline Wynn Allen
 Gladys Cater Culton
 Charlotte Ann McDougal
 Dinah Porter

SOPHOMORE HONORS

Claudette Stacy Taylor
 Berma Lucretia McDowell
 Claire Burdick Marcom
 Yvonne Madeleine Paulet
 Barbara Bell
 Ann Salisbury Bates
 Tallulah Ann Brown
 Joan Charlotte Heidenreich

Nancy Lucille Bowles
 Mary Edna Gregory
 Shirley Anne Davis
 Kay Tipton
 Nora Grant Alston
 Florence Theodora Van Dyke
 Katherine Lee Todd

DUKE UNIVERSITY

JUNIOR HONORS

Nancy Elizabeth Saunders
 Janet Patsy Ray
 Sylvia Annette Davis
 Sylvia Moonyeen Walters
 Lydia Ellen Hammaker
 Caroline Hopper
 Ruth Anne Coffman
 Mary Elaine Eyster
 Drucilla Carol Rogers
 Barbara Anne Whitehurst
 Jean Abney Groves

Elizabeth Ann Eller
 Sarah Lynn Whinrey
 Luanne Anita Cranston
 Marelou Fortune Hall
 Florence Messick Clay
 Helen Anne Caine
 Marilyn Taylor Affelder
 Ann Lyon Alexander
 Ingrida Karina Zarins
 Anna Lee Fauver
 Sandra Nolene Mitchell

COLLEGE OF ENGINEERING

FRESHMAN HONORS

John Edward Jenkins, Jr.

Wilbur C. Stewart

SOPHOMORE HONORS

Theodore Melvin Parker
 Frederick G. Sheppard
 Joseph Wallace Little
 Richard C. Bain

Joseph Robert Godwin
 Robert Schwalm Goudy
 James Willard Vaughan

JUNIOR HONORS

Richard Lewis Player, Jr.
 Bowden Wilson Ward, Jr.
 Robert Burns Wilson
 Norman Henry Briggs

George Jones Evans, Jr.
 William Albert Little
 James Faust Proctor

Summary

Government, Administration, and Instruction

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OFFICERS OF INSTRUCTION	560*
Professors	154
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Associates	50
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OTHER OFFICERS	56†
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THE STAFF OF THE UNIVERSITY LIBRARIES	67‡
Total	829§

* Does not include 22 officers with academic rank who are listed with the Officers of Administration.

† Does not include 23 officers with academic rank who are listed with the Officers of Instruction.

‡ Does not include one officer with academic rank who is listed with the Officers of Instruction.

§ Does not include duplications. An officer is included in the first category in which his name appears.

ENROLLMENT ON THE SEMESTER BASIS—1954-55

<i>School or College</i>	<i>Fall Semester 1954</i>	<i>Spring Semester 1955</i>
COLLEGE OF ENGINEERING		
Regular Students	464	421
Special Students	3	2
Total	467	423
TRINITY COLLEGE		
Regular Students	1,806	1,745
Special Students	26	29
Total	1,832	1,774
WOMAN'S COLLEGE		
Regular Students	1,040	994
Special Students	67	47
Total	1,107	1,041
DIVINITY SCHOOL		
Regular Students	217	205
Special Students	3	3
Total	220	208
GRADUATE SCHOOL OF ARTS AND SCIENCES		
Regular Students	412	387
Special Students	13	11
Total	425	398
SCHOOL OF FORESTRY		
Regular Students	29	28
Special Students	3	1
Total	32	29
SCHOOL OF LAW		
Regular Students	118	111
Special Students	3	3
Total	121	114
SCHOOL OF NURSING	223	211
TOTAL ENROLLED ON SEMESTER BASIS		
Regular Students	4,309	4,102
Special Students	118	96
Total	4,427	4,198

ENROLLMENT ON THE QUARTER BASIS—1954-55

Medical School	Summer Quarter 1954	Fall Quarter 1954	Winter Quarter 1955	Spring Quarter 1955
Regular Students	64	302	289	270
Fellows	28	28	28	28
Interns	55	55	55	55
Assistant Residents	109	109	109	109
Residents	22	22	22	22
<u>TOTAL ENROLLED ON</u>				
<u>QUARTER BASIS</u>	278	516	503	484

MISCELLANEOUS TERMS

Course	Number of Students	Length of Term	Beginning of Term
Anesthesiology	8	12 & 18 mos.	Registration Jan. & July
Dietetics	12	12 months	Registration September
Hospital Administration	9	24 months	Appointments Jan. & July
Medical Technology	6	21 months	Registration September
Physical Therapy	11	15 months	Registration October
Record Library	6	12 months	Registration October
X-Ray Technology	6	12 months	Appointments March & Oct.

SUMMARY: FALL AND SPRING ENROLLMENT—1954-55

Fall Enrollment	4,943
Spring Enrollment	4,682

SUMMER ENROLLMENT

	Term I	Term II	July
Regular Students	1,010	685	
Mycology			19

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Financial Report



1954-1955

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OF
DUKE UNIVERSITY
FINANCIAL REPORT

Year Ended June 30, 1955



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LETTER OF TRANSMITTAL

To the Board of Trustees of Duke University:

We are pleased to transmit herewith the Financial Report of the fiscal operations of Duke University for the year beginning July 1, 1954 and ending June 30, 1955.

There is included also the certificate of auditors, Peat, Marwick, Mitchell & Co., covering their examination of the records and accounts for the year.

Balance Sheet: The Balance Sheet shows a gross increase of \$3,846,167 during the year. Of this, \$2,869,467 was an increase in investments.

The Balance Sheet and other statements include only those assets to which the title actually vests in Duke University, and consequently do not include any portion of the indivisible Corpus of The Duke Endowment, the income from which, subject to the terms of the Trust Indenture, accrues to Duke University as one of the several beneficiaries. The income from this source amounted to \$1,928,843 for the year. Nor do the accounts include principal funds of trusts independently administered for the benefit of Duke University; such as, the Angier B. Duke Memorial, Inc., the Frederick M. Hanes Bequest, the Albert Anderson Bequest, the James A. Gray Foundation and the Mary Alyse Smith Scholarship Fund.

The year resulted in an operating deficit for Duke University, other than the Hospital, of \$53,531, and a deficit in the operation of Duke Hospital of \$127,210. In addition \$144,393 representing the balances in the Reserve for Undistributed Income and Unappropriated Surplus were transferred to University Improvement Accounts from Current Funds.

The following summary and comparison of Educational and General Receipts and Expenditures may be helpful.

<i>Revenue</i>	<i>1955</i>		<i>1954</i>	
	<i>Amount</i>	<i>Per Cent of Total</i>	<i>Amount</i>	<i>Per Cent of Total</i>
Endowment Income	\$3,041,136	% 40	\$2,741,734	% 38
Gifts and Grants:				
Loyalty Funds	148,832	2	87,054	1
For research	1,704,892	22	1,668,073	23
For training programs	134,251	2	96,829	1
For the libraries	1,302	.....	520	.....
For current expenses	66,868	1	47,913	1
	<u>2,056,145</u>	<u>27</u>	<u>1,900,389</u>	<u>26</u>
Tuition and Fees	2,204,802	29	2,177,765	30
Sundry (Net)	306,721	4	373,651	6
	<u>\$7,608,804</u>	<u>% 100</u>	<u>\$7,193,539</u>	<u>% 100</u>
<i>Expenditures</i>				
Administration	\$ 867,911	% 11	\$ 757,749	% 10
General operations	292,033	4	266,086	4
Instruction	3,838,468	48	3,722,700	50
Research	1,572,945	20	1,477,111	20

DUKE UNIVERSITY

Training programs	128,901	1	93,500	1
Libraries	496,396	6	475,289	6
Forest operations	18,947	.....	14,800	.....
Transfers to principal of funds	9,101	.....	7,384	.....
	<u>7,224,702</u>	<u>90</u>	<u>6,814,619</u>	<u>91</u>
Physical Plant	809,660	10	657,415	9
	<u>\$8,034,362</u>	<u>% 100</u>	<u>\$7,472,034</u>	<u>% 100</u>

Respectfully submitted,

C. B. MARKHAM

Treasurer

A. S. BROWER

Business Manager and Comptroller

G. C. HENRICKSEN

*Assistant Business Manager
and Comptroller*

Durham, N. C.

October 22, 1955

PEAT, MARWICK, MITCHELL & CO.

CERTIFIED PUBLIC ACCOUNTANTS

PIEDMONT BUILDING

GREENSBORO, N. C.

Report of Independent Certified Public Accountants

The Board of Trustees

Duke University

Durham, North Carolina

We have examined the balance sheet of Duke University as of June 30, 1955 and the related condensed statement of revenue and expenditures for the fiscal year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

The accounts of Duke University do not include as endowment that portion of the indivisible Corpus of The Duke Endowment, the income of which accrues to Duke University, subject to the terms of an indenture dated December 11, 1924, whereby Mr. James B. Duke established a trust to be administered for educational and charitable purposes.

Land, buildings and equipment are stated in the accompanying balance sheet at amounts shown by the books without provision for depreciation or obsolescence; further, it is not the practice of the University to record all transactions for assets discarded or replaced.

In our opinion, with the explanations set forth in the two preceding paragraphs, the accompanying balance sheet and condensed statement of revenue and expenditures present fairly the financial position of Duke University at June 30, 1955 and the results of its operations for the fiscal year then ended, in conformity with generally accepted accounting principles applied on a basis consistent in all material respects with that of the preceding year.

PEAT, MARWICK, MITCHELL & CO.

Greensboro, N. C.

August 15, 1955

BALANCE SHEET

June 30, 1955

ASSETS

CURRENT FUND:

Pooled cash and securities:

Cash on hand and in banks \$ 525,926.34

Securities, at cost or amortized value:

U. S. Government securities 104,913.65

Short-term notes 3,081,984.34

3,186,897.99

3,712,824.33

Less equity of other funds

3,286,542.66

426,281.67

Accounts receivable—net (note 1)

305,842.54

Inventories, at cost

626,456.69

Investment in dwellings, at cost less

amortization, \$47,740.68

14,175.47

Deferred charges

15,450.17

\$ 1,388,206.54

CURRENT RESTRICTED FUNDS:

Equity in pooled cash and securities

(Current Fund)

2,017,386.52

Note receivable

14,200.00

Accounts receivable

925.00

Investments, at cost

620,181.86

2,652,693.38

FUND FUNCTIONING AS ENDOWMENT:

Equity in pooled cash and securities

(Current Fund)

119,013.61

Accounts receivable

14,123.42

Investments, at cost or amortized value

16,372,484.18

16,505,621.21

ENDOWMENT FUNDS:

Equity in pooled cash and securities

(Current Fund)

2,671.74

Accounts receivable

468.72

Investments, at cost or amortized value

10,458,268.44

10,461,408.90

ENDOWED SPECIAL FUNDS:

Equity in pooled cash and securities

(Current Fund)

136,041.14

Investments, at cost or amortized value

1,129,417.65

1,265,458.79

Carried forward

\$32,273,388.82

BALANCE SHEET

June 30, 1955

LIABILITIES AND FUND BALANCES

CURRENT FUND:

Accounts payable and encumbrances:

Accounts payable	\$ 157,550.24
Purchase orders and other encumbrances	327,765.87

485,316.11

Deposit accounts	113,359.00
------------------	------------

Deferred income:

Loyalty Funds (1954-55, expendable for general purposes in 1955-56):

Duke University	159,872.91
-----------------	------------

Medical School	20,922.00
----------------	-----------

Endowment for Development of Graduate School	330,387.28
----------------------------------------------	------------

Endowment—The James B. Duke Professorship Fund	107,944.29
------------------------------------------------	------------

Other	170,404.95
-------	------------

789,531.43

Surplus—none (note 2)

0

\$ 1,388,206.54

CURRENT RESTRICTED FUNDS: (Schedule E)

Accounts payable (purchase orders outstanding)	98,279.11
------------------------------------------------	-----------

Balance of funds	2,554,414.27	2,652,693.38
------------------	--------------	--------------

FUND FUNCTIONING AS ENDOWMENT:

Reserve for stabilization of income	2,904,517.14
-------------------------------------	--------------

Balance of fund	13,601,104.07	16,505,621.21
-----------------	---------------	---------------

ENDOWMENT FUNDS: (Schedule A)

Principal of funds with income designated

for general purposes, including net realized gains on investments, \$502,970.27 (note 3)

10,461,408.90

10,461,408.90

ENDOWED SPECIAL FUNDS: (Schedule B)

Principal of funds with income designated for restricted purposes, including net realized gains on investments, \$49,997.51

1,109,208.23

Surplus expendable

156,250.56

1,265,458.79

Carried forward

\$32,273,388.82

BALANCE SHEET—Continued

Assets—Continued

Brought forward		\$32,273,388.82
SCHOLARSHIP FUNDS:		
Equity in pooled cash and securities (Current Fund)	\$ 366,758.32	
Investments, at cost or amortized value	<u>882,781.50</u>	1,249,539.82
STUDENT LOAN FUNDS:		
Equity in pooled cash and securities (Current Fund)	114,899.55	
Notes receivable	198,522.24	
Investments, at cost or amortized value	<u>324,583.48</u>	638,005.27
DUKE UNIVERSITY DEVELOPMENT FUND:		
Accounts receivable	2,955.63	
Investments, at cost or amortized value	<u>1,552,762.97</u>	1,555,718.60
PLANT FUNDS:		
Equity in pooled cash and securities (Current Fund)	451,856.45	
Notes receivable	81,270.44	
Investments, at cost	125,000.00	
Land, buildings, equipment, library books, including construction in progress	<u>47,541,862.60</u>	48,199,989.49
AGENCY FUNDS:		
Equity in pooled cash and securities (Current Fund)	77,915.33	
Notes receivable—student loans	<u>154,639.81</u>	232,555.14
		<u>\$84,149,197.14</u>

See accompanying notes to financial statements.

BALANCE SHEET—Continued **Liabilities and Fund Balances—Continued**

Brought forward		\$32,273,388.82
SCHOLARSHIP FUNDS: (Schedule C)		
Principal of funds with income designated for scholarship aid, including net realized gains on investments, \$74,251.91	\$ 889,451.65	
Surplus expendable	360,088.17	1,249,539.82
	<hr/>	
STUDENT LOAN FUNDS: (Schedule D)		
Principal of funds with income designated for student loans, including net realized gains on investments, \$35,012.86	255,883.80	
Principal of funds available for loans, including net realized gains on investments, \$5,049.17	74,044.36	
	<hr/>	
Surplus available for loans	329,928.16 308,077.11	638,005.27
	<hr/>	
DUKE UNIVERSITY DEVELOPMENT FUND:		
Balance of fund, including net realized gains on investments, \$615.01	1,555,718.60	1,555,718.60
	<hr/>	
PLANT FUNDS:		
Commitments for construction in progress	224,769.29	
Investment in plant	47,317,093.31	
Balance of funds, reserved for plant additions (note 2)	658,126.89	48,199,989.49
	<hr/>	
AGENCY FUNDS:		
Balance of funds:		
Returnable to principals	168,513.23	
Expendable for restricted purposes	64,041.91	232,555.14
	<hr/>	
		<u>\$84,149,197.14</u>

CONDENSED STATEMENT OF REVENUE AND EXPENDITURES

Fiscal year ended June 30, 1955

Revenue

EDUCATIONAL AND GENERAL:

Endowment income	\$ 3,041,136.31
Duke University Loyalty Fund (1953-54)	135,129.24
Medical School Loyalty Fund (1953-54)	13,703.35
Gifts and grants for research (Schedule F)	1,704,891.67
Grants for training programs (Schedule G)	134,250.97
Gifts for the libraries (Schedule H)	1,301.86
Gifts for current expenses (Schedule I)	66,868.01
Tuition and fees	2,204,801.62
Investment income	76,620.94
Forest operations	27,319.60
Other income	358,357.32

7,764,380.89

Add amounts transferred from other
expendable fund classifications

70,019.51

7,834,400.40

Less amounts transferred to balances
expendable for designated purposes

225,595.98

\$ 7,608,804.42

RELATED ACTIVITIES—hospital revenue

Net revenue from auxiliary enterprises

3,465,402.25

279,704.71

NON-EDUCATIONAL:

Gifts for fellowships and scholarships (Schedule J)	185,983.38
Gifts for miscellaneous purposes (Schedule K)	457,840.59
Investment income	127,599.46
Other income	53,742.63

825,166.06

Less amounts transferred to other
expendable fund classifications

118,797.23

706,368.83

Less amounts transferred to balances
expendable for designated purposes

7,950.17

698,418.66

Carried forward

\$12,052,330.04

CONDENSED STATEMENT OF REVENUE AND EXPENDITURES

Fiscal year ended June 30, 1955

Expenditures

EDUCATIONAL AND GENERAL:

Administration	\$ 867,910.95
General operations	292,033.56
Instruction	3,724,893.09
Research and training programs	1,701,845.96
Libraries	496,396.02
Summer school	113,575.35
Forest operations	18,946.73
Transfer to principal of Endowed Special Funds	9,100.64

Physical plant

7,224,702.30
809,659.86

\$ 8,034,362.16

RELATED ACTIVITIES:

Hospital expenditures	3,592,612.55
Other expenditures	52,071.18

3,644,683.73

NON-EDUCATIONAL:

Fellowships and scholarships	348,377.13
Miscellaneous	348,166.29
Transfers to principal of Scholarship Funds	1,875.24

698,418.66

Carried forward

\$12,377,464.55

CONDENSED STATEMENT OF REVENUE AND EXPENDITURES—Continued

Revenue—Continued

Brought forward		\$12,052,330.04
DUKE UNIVERSITY DEVELOPMENT FUND:		
Gifts	\$ 52,482.04	
Investment income	11,447.26	
Refund from Endowment Fund	14,346.47	
	<hr/> 78,275.77	
Less amounts transferred to other expendable fund classifications	158,507.36	
	<hr/> (80,231.59)	
Add amounts transferred from balances expendable for designated purposes	84,849.09	4,617.50
	<hr/> <hr/>	
PLANT FUNDS:		
Gifts (Schedule L)	139,266.88	
Investment income	18,827.03	
Land sales and other income	10,668.44	
Received from auxiliary enterprises	20,000.00	
Transfers from Duke University Development Fund	47,891.99	
Transfer from Current Restricted Funds	15,000.00	
Transfer from Current Fund (note 2)	144,393.09	
	<hr/> 396,047.43	
Add amounts transferred from balances expendable for designated purposes	447,425.36	843,472.79
	<hr/> <hr/>	
		<hr/> \$12,900,420.33
		<hr/> <hr/>

See accompanying notes to financial statements.

CONDENSED STATEMENT OF REVENUE AND EXPENDITURES—Continued

Expenditures—Continued

Brought forward		\$12,377,464.55
DUKE UNIVERSITY DEVELOPMENT FUND:		
Transfers to principal of funds:		
Endowed Special Funds	\$ 2,535.00	
Scholarship Funds	2,060.00	
Student Loan Funds	22.50	
		4,617.50
PLANT FUNDS:		
Capital expenditures	829,476.33	
Maintenance and other expenses	13,996.46	
		843,472.79
		13,225,554.84
Current Fund net deficit distributed as follows:		
Deficit from Hospital operations:		
Charged to Reserve for Stabilization of		
Hospital Income	111,147.06	
Charged to Unappropriated Surplus	16,063.24	
	127,210.30	
Deficit from operations, other than		
Hospital (note 2):		
Charged to Reserve for Undistributed		
Income	73,796.92	
Charged to Unappropriated Surplus	124,127.29	
	197,924.21	325,134.51
		\$12,900,420.33

Notes to Financial Statements

June 30, 1955

(1) Reserves for uncollectible accounts have been deducted from accounts receivable. The aggregate amount of such reserves is \$1,478,910.32 of which \$1,471,886.64 is in respect to a 100% reserve against hospital patients' accounts.

(2) The deficit from Current Fund operations, other than Hospital, for the year includes a net operating deficit of \$53,531.12 and a transfer of \$144,393.09 to Plant Funds on account of deficit in University Improvement accounts, such amount transferred representing the balances available in Reserve for Undistributed Income and Unappropriated Surplus at June 30, 1955. A further deficit of \$90,047.56 remains in the Plant Funds (University Improvement accounts) at June 30, 1955 which is to be recovered during the fiscal year ending June 30, 1956 from outside gifts and by charges to Current Fund operations.

(3) The accounts do not include that portion of the indivisible Corpus of The Duke Endowment, the income of which accrues to Duke University subject to the terms of a Trust Indenture dated December 11, 1924.

SCHEDULE A—ENDOWMENT FUNDS

	BOOK VALUE
DEVELOPMENT OF GRADUATE SCHOOL ENDOWMENTS:	
DUKE UNIVERSITY	
William B. Bell Endowment	
Established 1951 by bequest from William B. Bell	\$ 34,362.12
Walker P. Inman Endowment	
Established 1951 by gift from Walker P. Inman	123,260.63
David Ovens Fund	
Established 1950 by gift from David Ovens	100,000.10
William Neal Reynolds Endowment	
Established 1950 by gift from William N. Reynolds	272,343.75
Miscellaneous donations made in 1950, 1951, and 1952 in connection with the Development Campaign	495,659.55
	<hr/> \$1,025,626.15
THE DUKE ENDOWMENT	1,009,301.03
GENERAL EDUCATION BOARD	1,024,331.11
	<hr/> \$3,059,258.29
CENTENNIAL ENDOWMENT FUND	
Gifts from a number of individuals in connection with the Centennial celebration of Duke University; the income to be used annually, in the judgment of the Trustees, for the benefit of the University.	38,230.67
ANGIER BUCHANAN DUKE ENDOWMENT FUND	
Established 1923 by bequest of Angier Buchanan Duke, '05; to be added to the general endowment of the University.	280,588.16
B. N. DUKE ENDOWMENT FUND	
Established 1913 by gift from Benjamin Newton Duke; to be added to the general endowment of the University.	507,239.19
SARAH P. DUKE BEQUEST TO THE B. N. DUKE ENDOWMENT	
Established 1939 by bequest from Mrs. Sarah Pearson Duke; one-half of the net income to be used for the general purposes of the University; and one-half of the net income to be used for the establishment of the B. N. Duke Scholarships.	531,139.07
J. B. DUKE ENDOWMENT	
Established 1913 by gift from James Buchanan Duke; to be added to the general endowment of the University.	1,674,962.73
THE JAMES B. DUKE PROFESSORSHIP FUND	
Established 1952 by gift from The Duke Endowment; the income to be used for the purpose of attracting and/or developing distinguished or outstanding professors at the University.	2,009,968.93

Schedule A (Continued)—Endowment Funds**BOOK VALUE****WASHINGTON DUKE ENDOWMENT**

Established 1897 by gift from Washington Duke; to be added to the general endowment of the University. \$ 163,495.14

C. C. DULA ENDOWMENT

Established 1927 by gift from Caleb C. Dula; to be added to the general endowment of the University. 225,794.38

DORIS DUKE ENDOWMENT

Established 1955 by gift from Doris Duke to be added to the general endowment of the University. 368,064.28

ROBERT L. FLOWERS ENDOWMENT

Established 1952 by bequest from Robert L. Flowers; to be added to the general endowment of the University. 193,388.34

GENERAL EDUCATION BOARD ENDOWMENT

Established 1923 by gift from the General Education Board; to be added to the general endowment of the University. 330,535.57

GENERAL ENDOWMENT

Established to accumulate sundry endowment gifts; the principal one being from the General Education Board. 223,919.75

ELIZABETH P. HANES ENDOWMENT

Established 1952, being the unexpended portion of gift from Elizabeth P. Hanes for construction of a Nurses' Home; this residue being added to the general endowment. 410,953.58

**FLORENCE REYNAUD McALISTER CHAIR OF
MEDICINE AND MEDICAL RESEARCH**

Established 1936 by gift from Mrs. Amelie McAlister Upshur, as a memorial to her sister. 224,478.16

W. R. PERKINS ENDOWMENT

Established 1945 by bequest from William R. Perkins; to be added to the general endowment of the University. 166,648.65

LUTHER P. TAPP MEMORIAL FUND

Established 1951 by gift from Mr. and Mrs. L. B. Jenkins, '10, and supplemented subsequently by additional gifts in memory of her father, Luther P. Tapp; the income to be used to supplement salaries of professors in the general field of the Humanities. 52,744.01

TOTAL \$10,461,408.90

SCHEDULE B—ENDOWED SPECIAL FUNDS

BOOK VALUE

ALUMNI ACTIVITIES FUND

Established 1939 by gift of P. Frank Hanes, '11, in connection with the Centennial celebration of Duke University; the income to be used for the support of the activities of the Alumni Office. \$ 3,986.99

AVERA BIBLE FUND

Established 1895 by gift of Mrs. L. B. McCullers in memory of her husband, Willis H. Avera; the income to be used for the purchase of books for the Divinity School Library and for the support of the Avera Bible Lectures. 3,415.95

ISAAC ERWIN AVERY FUND

Established 1905 from the proceeds of the sale of the publication of "Idle Comments," a collection of the writings of Isaac Erwin Avery, '94; the income to be used for the purchase of books in the field of journalism. 1,419.78

JOHN SPENCER BASSETT MEMORIAL FUND

Established by miscellaneous gifts in memory of John Spencer Bassett, formerly Professor in Trinity College; the income to be used for the purchase of books for the Library. 842.89

ROBERT SPENCER BELL STUDENT AID FUND

Established 1942 by Mr. James A. Bell, '86 of Charlotte, N. C., in memory of his son, Robert Spencer Bell, and supplemented subsequently by additional gifts; the income to be used in providing annually a prize for one or more students evidencing the greatest improvement in his college work during the year. 23,700.18

MARY DUKE BIDDLE LIBRARY FUND

Established 1951 by gift from Mary Duke Biddle and supplemented subsequently by additional gifts; the income to be used to maintain and operate the library of Duke University. 331,957.92

JOSEPH G. BROWN BOOK FUND

Established 1921 by gifts of various individuals in honor of Joseph G. Brown, '75, chairman of the Board of Trustees 1917-27; the income to be used for the purchase of books for the Library. 5,631.71

CHRISTIAN EDUCATION FUND

Miscellaneous contributions over a period of many years; to be used for various purposes designated by the donors. 5,700.11

CLASS OF 1909 FUND

Established by members of the Class of 1909, the income to be used for the purchase of books for the General Library. 1,892.32

CLASS OF 1910 FUND

Donation by members of the Class of 1910; to be used for the general purposes of the University. 181.48

Schedule B (Continued)—Endowed Special Funds

BOOK VALUE

CLASS OF 1915 FUND

Miscellaneous donations by the members of the Class of 1915 in connection with the Centennial celebration of Duke University; to be used for the general purposes of the University. \$ 1,881.06

CLASS OF 1917 FUND

Miscellaneous contributions by the members of the Class of 1917; to be used for the general purposes of the University. 35.70

CLASS OF 1918 FUND

Miscellaneous contributions by the members of the Class of 1918; to be used for the general purposes of the University. 659.33

CROWELL SCIENCE LECTURE FUND

Established 1921 by contributions from various individuals; the income to be used for annual lectures on scientific subjects. 2,066.37

JULIA DALE MEMORIAL FUND

Contributions by friends and relatives in memory of Miss Julia Dale; the income to be used to provide annually for the Julia Dale Prize in Mathematics. 1,181.14

DUKE MEMORIAL CHAPEL MAINTENANCE FUND

Established 1930 by Mr. James A. Thomas; the proceeds to be used toward the maintenance of the Duke Memorial Chapel. 2,820.27

DUKE MONUMENT FUND

Established to provide for the perpetual maintenance of the statue of Washington Duke. 1,853.37

EASON PRESBYTERIAN STUDENT FUND

Established 1953 by gift from W. W. Eason; the income to be available for a Presbyterian ministerial student. 110.61

ANNE FLEXNER MEMORIAL FUND

Established October, 1947, by Dr. Morris Flexner and Mrs. Marion W. Flexner, in memory of their daughter, Anne Flexner, '45; the income to be used for an annual award to the student who does the most outstanding piece of creative writing. 1,846.58

GEORGE WASHINGTON FLOWERS MEMORIAL FUND

Established 1941 by bequest of William W. Flowers, '94, in memory of his father, George Washington Flowers, and supplemented in 1952 by bequest of Robert L. Flowers; the income to be used for the purchase of manuscripts, books and other printed or photographed materials dealing with the life and thought of the Southern states of the United States of America. 296,688.62

JOHN MCTYEIRE FLOWERS LECTURE FUND

Established 1915 by gift of Mr. B. N. Duke in memory of John McTyeire Flowers; the income to be used for lectures dealing with the subject of Christian citizenship. 12,360.47

Schedule B (Continued)—Endowed Special Funds

BOOK VALUE

JESSE T. AND LOVIE BROOKS FRIZZELLE MEMORIAL FUND

Established 1954, by gift from M. T. Frizzelle, '03; the income to be transferred annually to the Duke University Loyalty Fund. \$ 6,383.39

WILLIAM FRANCIS GILL MEMORIAL FUND

Established 1918 by gifts of several individuals, in memory of William Francis Gill, for many years Professor of Latin in Trinity College; the income to be used for a collection of books in the General Library in the field of Latin. 1,411.97

F. M. HANES BEQUEST TO DEPARTMENT OF MEDICINE

Established 1951 by bequest from F. M. Hanes; comprised of 20% of the proceeds from the Trust; the income to be used for the promotion of the highest standards of medical teaching and for medical research. 30,142.64

F. M. HANES BEQUEST TO SCHOOL OF MEDICINE

Established 1951 by bequest from F. M. Hanes; comprised of 20% of the proceeds from the Trust; the income to be used for the promotion of the highest standards of medical training and for medical research. 30,142.64

P. HUBER HANES FUND

Established 1939 by gift of P. Huber Hanes, '00; the income to be used as follows: three-fifths for the support of the P. Huber Hanes Scholarships; one-fifth to the P. Huber Hanes, Jr. '37, Scholarship; and one-fifth to the Duke University Press. 68,694.57

CHARLES W. HARGITT RESEARCH FELLOWSHIP IN ZOOLOGY FUND

Established 1939 by Dr. George T. Hargitt; the proceeds to be used for establishing a research fellowship in Zoology, to be named in memory of Charles W. Hargitt. 78,303.85

WINFRED QUINTON HOLTON MEMORIAL FUND

Established 1922 by gifts of Holland Holton, '07, and Mrs. Lela Young Holton, '07, in memory of their son, Winfred Quinton Holton; the income to be used to provide a prize for investigative work in primary education. 1,714.09

THE JONES CHAIR OF ENGINEERING FUND

Established 1951 by gifts from J. A. Jones Construction Company, Mr. and Mrs. Edwin L. Jones, Mr. and Mrs. Edwin L. Jones, Jr. and supplemented by other gifts; the income to be used for the benefit of the College of Engineering as salaries, a professorship, scholarships or research. 157,563.41

Schedule B (Continued)—Endowed Special Funds

BOOK VALUE

HENRY HARRISON JORDAN MEMORIAL FOUNDATION

Established 1947 by gifts from Mrs. George Way, B. Everett Jordan, '18, H. W. Jordan, Charles E. Jordan, '23, Mrs. H. C. Sprinkle, Jr., '24, and Frank B. Jordan, '27, children of Reverend Henry Harrison Jordan, of the residue of the estate of their father, supplemented by additional gifts; the income to be used for the support of the Ministers' Loan Library of the Duke Divinity School.

S 27,430.71

LIBRARY ENDOWMENT FUND

Established 1939 by contributions from a number of individuals in connection with the Centennial celebration of Duke University; the income to be used for the General Library of Duke University.

4,021.11

MEDICAL SCHOOL RESEARCH FUND

Established 1939 by contributions from a number of individuals in connection with the Centennial celebration of Duke University; the income to be used for medical research.

6,252.99

METHODIST COLLEGE ADVANCE FUND

Established by contributions from the Western North Carolina Conference and the North Carolina Conference of the Methodist Church; the income to be used for scholarships for young men and women preparing for full time service in the work of religious education, and for a program of educational service to ministers already in the field. This plan would permit the use of the funds for special conferences, expansion of the Ministers' Loan Library, short-term winter courses, and other services, particularly to rural churches.

28,507.40

ALBERT MILMOW PRIZE IN ELECTRICAL ENGINEERING

Established 1935 by gift of Albert Milmow; the income to be used in providing annually a prize to the student in Electrical Engineering who shows the greatest progress in electrical engineering.

295.80

J. M. ORMOND FUND FOR THE TRAINING OF MINISTERS
FOR THE RURAL CHURCH

Established December 11, 1948 by gifts through the Methodist College Advance and supplemented subsequently by additional gifts; the income to be used to do research work in the rural church field of the North Carolina Conference of the Methodist Church of the Southeastern Conference.

81,045.91

ORMOND MEMORIAL FUND

Established 1924 by Dr. J. M. Ormond, '02, and Mrs. Ormond, in memory of his mother and father, Mr. and Mrs. J. J. Ormond; the income to be used for the purchase of a collection of books on the rural church for the Library of the Divinity School at Duke University.

1,611.89

Schedule B (Continued)—Endowed Special Funds

BOOK VALUE

PUBLICATIONS SINKING FUND

Established by the Publications Board of Duke University to serve as a reserve for the publications operated under its direction. \$ 29,077.67

WILLIAM SENHAUSER MEMORIAL FUND

Established 1947 by gift of Mrs. Thomas E. Raymond in memory of her son. An award is made annually to the sophomore or junior who has made the greatest contribution through participation and leadership in intramural sports. 1,211.00

MARY ALYSE SMITH MUSIC FUND

Established in 1951 by gift from Mary Alyse Smith, '30; the income to be used for the support, promotion and maintenance of the Music Division of the Department of Aesthetics, Art and Music. 5,333.70

FRANCIS HUNTINGTON SWETT MEMORIAL AWARD FUND

Established 1951 by gift from Dr. George J. Baylin; the income to provide an annual award to the most valuable basketball player. 732.89

GRATTON WILLIAMS FUND

Established 1920 by bequest of Gratton Williams; the income to be used for the general purposes of Duke University, particularly for the development of the Library. 1,613.56

JAMES J. WOLFE MEMORIAL FUND

Established 1921 by his friends and former students in memory of Dr. James J. Wolfe, Professor of Biology at Trinity College from 1904 until his death in June, 1920; the income to be used to purchase periodicals relating to biology. 1,946.41

LIZZIE TAYLOR WRENN FOUNDATION

Established 1921 by gift from Mrs. May Wrenn Morgan, '08, and her husband, John Allen Morgan, '06, in memory of Mrs. Morgan's sister, Lizzie Taylor Wrenn, '12; the income to be used for purchase of books for the Library of Duke University. 1,788.34

TOTAL \$1,265,458.79

SCHEDULE C—SCHOLARSHIP FUNDS

BOOK VALUE

FRED SOULE ALDRIDGE-DURHAM COUNTY ALUMNI
SCHOLARSHIP FUND

Established December, 1947 by gift of Fred S. Aldridge, '98, and Mrs. Aldridge and includes subsequent annual contributions from the Durham County Alumni; the income to be used for scholarship aid, preference to be given to young men from Durham County. \$ 4,385.38

GEORGE G. ALLEN SCHOLARSHIP FUND

Established July, 1947 by gift of Mr. George G. Allen; the income to be used for scholarship aid to deserving boys and girls from Warren County, N. C., and, under certain conditions, for other worthy students. 52,541.57

ALUMNAE SCHOLARSHIP FUND

Established May 1940 by the Alumnae Association, in connection with the celebration of the Centennial of Duke University; the income to be used for scholarship aid to young women students of the Woman's College. 3,338.89

ALUMNI MEMORIAL SCHOLARSHIP FUND

Established December, 1943 by several donors, in memory of alumni of Duke University who lost their lives during World War II; the income to be used for scholarship aid to worthy students. 2,715.65

ATLANTA ALUMNI SCHOLARSHIP FUND

Established May, 1941 by gifts of members of the Alumni Association of Atlanta, Ga.; the income to be used for scholarship aid to worthy students. 4,230.65

ALICE M. BALDWIN SCHOLARSHIP FUND

Established June, 1945 and supplemented from time to time by gifts from students and alumnae in honor of Alice M. Baldwin, Dean of the Woman's College, 1923-47; supplemented by a gift from the Class of 1951 of the Woman's College in memory of Berenice Lipscomb and Betsy Thorup; to be used for scholarship aid to undergraduate students in the Woman's College. 34,074.80

BANKS-BRADSHAW SCHOLARSHIP FUND

Established 1913 by gift of Messrs. W. L. Banks and Mike Bradshaw, '78; the income to be used for scholarship aid to worthy students. 1,489.07

HERBERT J. BASS SCHOLARSHIP FUND

Established 1900 by gift of Mr. and Mrs. Herbert J. Bass of Durham, N. C., in memory of their son, Herbert J. Bass, Jr.; the income to be used for scholarship aid to worthy students. 1,722.76

EDGAR S. BOWLING SCHOLARSHIP FUND

Established 1928 by gift of Edgar S. Bowling, '99, in memory of his sister, Mrs. Maye Bowling Bennett, '12; the income to be used for scholarship aid, preference to be given to boys and girls from Durham and adjoining counties. 37,221.79

Schedule C (Continued)—Scholarship Funds

BOOK VALUE

FRANKLIN BROWN FAMILY SCHOLARSHIP FUND

Established 1954 by gift from Mr. and Mrs. W. Franklin Brown; the income to be used for scholarship aid to worthy undergraduate students.

\$ 15,627.92

ELIZABETH CROWELL CARNES FOUNDATION

Established January, 1948, by bequest of Elizabeth Crowell Carnes, in memory of her parents, Jonas William Crowell and Virginia Vick Crowell; the income to be used for scholarship aid for young men and women of Duke University.

5,492.26

CENTENNIAL SCHOLARSHIP FUND

Established 1939 by gifts from several donors in connection with the Centennial celebration of Duke University; the income to be used for scholarship aid to worthy students.

1,453.14

CHRISTIAN EDUCATION SCHOLARSHIP FUND

Established by various contributions designated for scholarships in the Christian Education Movement, and includes contributions from Julian S. Carr, Mrs. Annie A. Foushee, C. T. Johnson, H. E. Myers, the Pegram Family, W. P. Suggs, E. T. White, Mr. and Mrs. J. C. Braswell and Mrs. R. C. Bruton, in memory of Alexander Walker; the alumni of Harnett County, and others; the income to be used for scholarship aid to worthy students.

6,159.98

CLASS OF 1906 SCHOLARSHIP FUND

Established July, 1937 by gifts from several members of the Class of 1906; the income to be used for scholarship aid to worthy students.

894.06

CLASS OF 1912 SCHOLARSHIP FUND

Established by gifts from several members of the Class of 1912; the income to be used for scholarships to worthy students.

580.08

CLASS OF 1914 SCHOLARSHIP FUND

Established December, 1938 during the Centennial celebration of Duke University, by various members of the Class; the income to be used for scholarship aid to worthy students, preference to be shown to descendants of the members of the Class of 1914.

2,867.10

CLASS OF 1917 SCHOLARSHIP FUND

Established August, 1952, by bequest of the Reverend R. Ernest Atkinson, '17; the income to be used for scholarship aid to needy young Methodist ministers while studying at Duke University.

280.51

CLASS OF 1918 SCHOLARSHIP FUND

Established by gifts from several members of the Class of 1918; the income to be used for scholarship aid to worthy students.

344.53

Schedule C (Continued)—Scholarship Funds

BOOK VALUE

E. M. COLE FOUNDATION

Established 1920 by E. M. Cole, Charlotte, N. C.; the income to be used for scholarships for the benefit of undergraduate students preparing for the ministry.

\$ 22,619.02

ROBERT B. COX SCHOLARSHIP FUND

Established 1949 by gift of Robert L. Wolfe and supplemented from time to time by other gifts; the income to be used for scholarship aid for undergraduate men.

3,016.44

WILL L. CUNINGGIM SCHOLARSHIP FUND

Established 1934 by bequest of Mrs. W. L. Cuninggim, and supplemented by bequest of Mrs. Albert Bourne, in memory of Reverend Will L. Cuninggim; the income to be used for scholarship aid, preference being given to graduates of the Methodist Orphanage, Raleigh, N. C.

12,907.46

ROSE M. DAVIS SCHOLARSHIP FUND

Established 1941 by Dr. Rose M. Davis; the income to be used for scholarship aid.

388.41

DIVINITY SCHOOL FOREIGN STUDENTS SCHOLARSHIP FUND

Established 1955 by contributions from various church agencies; to be used currently for scholarship aid to designated foreign students.

651.80

DIVINITY SCHOOL MISCELLANEOUS SCHOLARSHIP FUND

Contributions by various churches and individuals for use currently for scholarship aid to designated individuals.

24,189.36

JERE R. DOWNING SCHOLARSHIP FUND

Established 1936 by Mrs. Alice M. Downing and her son, J. Robert Downing, '35, as a memorial to their husband and father, Jere R. Downing of Kennebunk, Me.; the income to be used for scholarship aid, preference to be given to students from New England.

1,396.50

B. N. DUKE SCHOLARSHIP FUND

Established 1939 by bequest of Mrs. Sarah P. Duke in memory of her husband, Benjamin N. Duke; comprised of one-half of the income earned by the bequest of Sarah P. Duke to the B. N. Duke Endowment Fund; to be used for scholarship aid to worthy and needy students of Duke University.

26,379.47

N. EDWARD EDGERTON SCHOLARSHIP FUND

Established May, 1940 by gift of N. Edward Edgerton, '21, of Raleigh, N. C.; to be used only for scholarship aid to candidates for the B.D. degree in the Divinity School of Duke University.

6,845.53

EDGERTON SCHOLARSHIP FUND

Established in January, 1953 by Mr. N. E. Edgerton, '21, through the Duke University Development Campaign; the income to be used for scholarship aid to worthy students, preference to be given to students from Wake County, North Carolina.

11,316.83

Schedule C (Continued)—Scholarship Funds

	BOOK VALUE
ENGINEERING SCHOLARSHIP FUND	
Established by gifts of various persons; to be used for scholarship aid to engineering students.	\$ 306.49
WILLIAM P. FEW MEMORIAL SCHOLARSHIP FUND	
Established 1942 by gifts from various persons; to be used for scholarship aid to worthy students.	2,581.05
ARTHUR ELLIS FLOWERS SCHOLARSHIP FUND	
Established 1901 by Col. and Mrs. George W. Flowers, in memory of their son, Arthur Ellis Flowers; the income to be used for scholarship aid to worthy students.	1,148.45
GEORGE W. FLOWERS SCHOLARSHIP FUND	
Established June, 1927 by gift of Claude M. Flowers, '09, in memory of his father, Col. Geo. W. Flowers, for many years a Trustee of Trinity College; the income to be used for scholarship aid to needy and worthy students.	5,742.47
ROBERT L. FLOWERS SCHOLARSHIP FUND	
Established May, 1939 by gift of Robert L. Flowers; income to be used for scholarship aid to worthy students.	2,081.42
R. L. FLOWERS TRUST SCHOLARSHIP FUND	
Established 1948 by bequest of Lily Parrish Flowers; the income to be used for scholarship aid for worthy students.	66,419.30
GENERAL UNIVERSITY SCHOLARSHIP FUND	
Miscellaneous gifts from numerous persons; to be used currently for scholarship aid to worthy students.	25,820.96
OTTIS GREEN FOUNDATION	
Established 1951 by gift from Ottis Green; the income to be used to provide scholarships and fellowships for advanced study in the Graduate School of Duke University.	28,936.87
GUILFORD COUNTY SCHOLARSHIP FUND	
Established 1941 by miscellaneous gifts of several persons; the income to be used for scholarship aid to worthy students.	127.46
A. H. GWYNN SCHOLARSHIP FUND	
Established May, 1951, by Judge A. H. Gwynn, '18; the income to be used for scholarship aid to worthy students.	712.83
P. HUBER HANES SCHOLARSHIP FUND	
Established 1939, consisting of 3/5 of the income accruing annually to the P. Huber Hanes Fund; to be used for scholarship aid; one scholarship in the School of Religion; two scholarships to members of the families of alumni; and two general scholarships.	5,641.01

Schedule C (Continued)—Scholarship Funds

BOOK VALUE

P. HUBER HANES, JR., SCHOLARSHIP FUND

Established 1939; consisting of 1/5 of the income accruing annually to the P. Huber Hanes Fund; to be used for two scholarships for junior or senior students majoring in Business Administration. \$ 3,531.90

J. WELCH HARRISS SCHOLARSHIP FUND

Established May 23, 1950 by gift of J. Welch Harriss, '28, and supplemented subsequently by additional gifts; the income to be used for scholarships to deserving young men from High Point, N. C., entering the Freshman Class of Trinity College. 18,357.61

B. D. HEATH SCHOLARSHIP FUND

Established 1903 by B. D. Heath; to be used for scholarship to aid worthy students from Union County, N. C. 3,916.43

HIGH POINT SCHOLARSHIP FUND

Established by gifts of members of the High Point Alumni Association, in connection with the celebration of the Centennial of Duke University; the income to be used for scholarship aid for students who are graduates of the High Point, N. C. High School. 6,524.77

GEORGE M. IVEY SCHOLARSHIP FUND

Established December 8, 1948 by gift of George M. Ivey; the income to be used for scholarship aid for deserving students in the Divinity School. 11,992.62

HUNTER JONES SCHOLARSHIP FUND

Established December, 1947 by gift of Hunter Jones, '19, Durham, N. C.; the income therefrom to be used for scholarship aid to worthy students. 4,265.52

HENRY HARRISON JORDAN MEMORIAL SCHOLARSHIP FUND

Established December, 1938 by gifts from Mrs. George Way, B. Everett Jordan, '18, H. W. Jordan, Charles E. Jordan, '23, Mrs. H. C. Sprinkle, Jr., '24, and Frank B. Jordan, '27, in memory of their father, Reverend Henry Harrison Jordan, a member of the Western North Carolina Conference; the income to be used for scholarship aid to worthy students. 13,480.46

J. M. JUDD SCHOLARSHIP FUND

Established 1922 by Dr. J. M. Judd, '95, of Varina, N. C., with directions that the earnings be allowed to accumulate until such time as they are sufficient to provide a four-year tuition scholarship. 2,506.48

GURNEY HARRISS KEARNS FOUNDATION FOR

GRADUATE STUDY IN RELIGION

Established 1935 by gifts of Mr. and Mrs. Gurney Harriss Kearns, '97, High Point, N. C., supplemented by Amos R. Kearns, '27 and Charles L. Kearns, '32, and Katherine Kearns Cheek; the income to be used for one or more fellowships for advanced graduate study and research at Duke University in the field of American religious thought and practice. 110,300.70

Schedule C (Continued)—Scholarship Funds

BOOK VALUE

W. K. KELLOGG FOUNDATION SCHOLARSHIP FUND
FOR TECHNICIANS

Established by contribution from the W. K. Kellogg Foundation; the entire sum to be used currently for scholarship aid to students preparing as medical technicians. \$ 2,000.00

FRANK S. LAMBETH SCHOLARSHIP FUND

Established 1930 by bequest of Col. Frank S. Lambeth, '30; the income to be used for scholarship aid to worthy students of Duke University. 1,162.22

LAURINBURG CHRISTIAN EDUCATION SCHOLARSHIP FUND

Established December 11, 1948 by gift through the Methodist College Advance Fund; the income to be used for scholarship aid for worthy students of the Divinity School. 5,579.01

LAW SCHOOL SCHOLARSHIP FUND

Established 1950 by University appropriation to provide scholarship aid to deserving students in the School of Law. 21,600.00

D. M. LITAKER SCHOLARSHIP FUND

Established 1946 by gift of Mr. Charles H. Litaker, '28, in memory of his father, Dr. D. M. Litaker, '90, who for 47 years was an active minister in the Methodist Church, and supplemented subsequently by additional gifts; the income and, under certain conditions, a part of the corpus of the fund to be used for scholarship aid for undergraduate students, natives of the territory now embraced by the Western North Carolina Conference who are preparing for the ministry. 27,157.48

MARY ELIZABETH DUKE LYON SCHOLARSHIP FUND

Established 1942 by Mrs. Mary Washington Stagg, in memory of her mother, Mary Elizabeth Duke Lyon; the income to be used for scholarship aid for worthy students. 6,930.93

THE McALISTER SCHOLARSHIP FUND

Established December, 1935 by Mrs. Amelie McAlister Upshur in memory of her mother, Armantine Reynaud McAlister, and father, William Henry McAlister; the income to be used annually for a scholarship for one boy and one girl from each of the three states of North Carolina, South Carolina and Louisiana. 150,771.92

J. H. MCCrackEN MEMORIAL SCHOLARSHIP FUND

Established 1947 by Dr. J. H. McCracken, '22 and contributions from members of the First Methodist Church of Henderson, N. C., in memory of Reverend J. H. McCracken, '92, for many years a member of the North Carolina Conference; income to be used for scholarship aid. 5,917.58

T. W. MCCrackEN SCHOLARSHIP FUND

Established 1945 by Thomas W. McCracken, '15; the income to be used for scholarship aid for worthy students. 6,855.35

Schedule C (Continued)—Scholarship Funds

BOOK VALUE

THE O. G. B. McMULLAN SCHOLARSHIP FUND

Established 1913 by gift of Mr. O. G. B. McMullan of Elizabeth City, N. C.; the income to be used for scholarship aid for worthy students, preference to be given to residents of Perquimans and Pasquotank Counties, N. C.

\$ 2,104.90

THE LOUISE AND C. K. MASSEY SCHOLARSHIP FUND

Established 1953 by gift from C. Knox Massey; to be used for scholarship aid to worthy students.

2,143.15

R. A. MAYER SCHOLARSHIP FUND

Established 1939 by gift of R. A. Mayer, '96, in memory of his father, Minor C. Mayer, and mother, Sarah R. Mayer, in connection with the Centennial celebration of Duke University, and supplemented subsequently by additional gifts; the income to be used for scholarship aid for worthy students, preference to be given to students from Mecklenburg County, N. C.

14,422.77

METHODIST BOARD OF EDUCATION SCHOLARSHIP FUND

Grants by the Board of Education of the Methodist Church to be used currently for scholarship aid to worthy students.

1,000.00

W. H. MOORE SCHOLARSHIP FUND

Established 1920 in memory of Dr. W. H. Moore, '71, by his wife, Mrs. W. H. Moore, and daughters, Mrs. W. E. Steele, Miss Maude Moore, Mrs. T. L. Patsons, Mrs. J. H. Ihrie, and Mrs. J. LeGrand Everett; the income to be used for scholarship aid to worthy students.

1,378.25

THOMAS R. MULLEN, JR., SCHOLARSHIP FUND

Established April 5, 1949 by gift of T. R. Mullen in memory of his son and supplemented subsequently by additional gifts; the income to be used for scholarship aid for worthy young men and women.

40,141.37

MYERS PARK SCHOLARSHIP FUND

Established 1948 by contributions of the members of the congregation of the Myers Park Methodist Church, Charlotte, N. C.; the income to be used for the benefit of the Divinity School.

9,955.53

J. A. ODELL SCHOLARSHIP FUND

Established 1897 by gift of Mr. James A. Odell; the income to be used for scholarship aid to worthy students.

1,489.07

J. M. ODELL SCHOLARSHIP FUND

Established 1897 by gift of Captain J. M. Odell; the income to be used for scholarship aid to worthy students.

1,489.07

Schedule C (Continued)—Scholarship Funds

BOOK VALUE

W. R. ODELL SCHOLARSHIP FUND

Established 1940 by gifts from Fred C. Odell, '02, Mrs. Ralph M. Odell, Arthur G. Odell, '06, and supplemented from time to time by others, in memory of William R. Odell, '75, for more than 50 years a member of the Board of Trustees of Duke University; the income to be used for scholarship aid for worthy students. \$ 11,501.02

THE W. R. ODELL DIVINITY SCHOLARSHIP FUND

Established June, 1946 by members and friends of the Forest Hills Methodist Church, Concord, N. C., in memory of William R. Odell, '75; the income to be used for scholarship aid for students preparing for the Methodist ministry. 6,713.72

HENRY A. PAGE SCHOLARSHIP FUND

Established January, 1942 by gift of Henry A. Page, Jr., '07, and Gertrude Wetherill Page, in memory of his father, Henry A. Page, for many years a member of the Board of Trustees of Duke University; the income to be used for scholarship aid to worthy students, preferably those preparing for the study of medicine. 14,396.74

EDWARD JAMES PARRISH SCHOLARSHIP FUND

Established 1921 by Mrs. Rosa Brown Parrish, in memory of her husband, Edward J. Parrish; the income to be used for scholarship aid to worthy students. 1,148.45

POOLED INCOME—DIVINITY SCHOOL SCHOLARSHIP FUND

Established 1951 to consolidate the income of various Scholarship Funds which are restricted for the use of the Divinity School. 8,910.27

JOHN T. RING SCHOLARSHIP FUND

Established 1919 by gift of Mr. S. G. Ring and family of Kernersville, N. C., in memory of John T. Ring, '16, who was killed in France during World War I; the income to be used for scholarship aid for worthy students. 1,378.25

T. V. ROCHELLE SCHOLARSHIP FUND

Established 1945 by T. V. Rochelle, '14, High Point, N. C.; the income to be used for scholarship aid for a worthy and needy student who is a graduate of the High Point, N. C., High School. 6,436.43

ELBERT RUSSELL DIVINITY SCHOOL SCHOLARSHIP FUND

Established 1943, and since that time supplemented annually, by gifts from friends and alumni of the Divinity School, in honor of Elbert Russell, Dean and Professor of Biblical Interpretation of the Divinity School, 1926-1945; the income to be used for scholarship aid for students preparing for the ministry in the Divinity School. 5,554.97

SANDALS SCHOLARSHIP FUND

Established 1955 by contribution from Sandals, for the purpose of providing scholarship awards to rising sophomores in the Woman's College of Duke University. 350.29

Schedule C (Continued)—Scholarship Funds

BOOK VALUE

JOSEPH H. SEPARK MEMORIAL SCHOLARSHIP FUND

Established 1950 by gifts from friends in memory of Joseph H. Separk, for many years a member of the Board of Trustees of Duke University; the income to be used for scholarship aid to worthy students, preference to be given to students from Gaston County, N. C. \$ 16,766.11

J. RAYMOND SMITH SCHOLARSHIP FUND

Established 1939 by J. Raymond Smith, '17, Mt. Airy, N. C., in connection with the Centennial celebration of Duke University; the income to be used for scholarship aid to worthy students. 11,531.55

WILLIS SMITH SCHOLARSHIP FUND

Established 1939 by Willis Smith, '10, and supplemented from time to time; the fund to be used for scholarship purposes. 40,015.64

HERSEY EVERETT SPENCE SCHOLARSHIP FUND

Established December, 1947 by gifts of members of the Methodist Church of Sanford, N. C., through the Methodist College Advance Fund, in honor of Hersey Everett Spence, '07, former pastor of that church and a member of the faculty of the Divinity School of Duke University; the income to be used for scholarship aid to deserving students in the Divinity School. 5,490.64

THOMASVILLE SCHOLARSHIP FUND

Established 1940 by gifts of T. Austin Finch, '09, and J. Walter Lambeth, '16, by contributions made through the Centennial Fund; the income to be used for scholarship aid for worthy students. 1,435.43

MARY NEWBY TOMS SCHOLARSHIP FUND

Established 1906 by gift of Mr. Clinton W. Toms and supplemented from time to time by additional gifts; in May, 1947, in connection with supplemental gifts to the Fund, it was established as a permanent endowment in memory of his wife, Mary Newby Toms; the income to be used for scholarship aid for worthy students, preference to be given to students from Durham and Perquimans Counties, N. C. 128,960.96

HORACE TRUMBAUER MEMORIAL FUND

Established 1955 by contribution from Mrs. Helena S. Fennessy, in memory of her father Horace Trumbauer; the income to be used for scholarship aid to worthy students, preference being given to students majoring in subjects which relate to the practice of Architecture. 4,557.60

UNDERGRADUATE SCHOLARSHIP FUND

Established 1950 to provide scholarship aid to deserving students in the undergraduate colleges of Duke University. Since 1951 this fund has been increased by the income from several Scholarship Funds which were not restricted in their use. 69,229.36

Schedule C (Continued)—Scholarship Funds

BOOK VALUE

THE WAGGONER SCHOLARSHIP FUND

Established 1954 by contribution from T. R. Waggoner, '22 in memory of his parents, Thomas Spencer Waggoner and Eva Barnwell Waggoner; the income to be used for scholarship aid for worthy undergraduate students.

\$ 1,033.79

GEORGE W. WATTS SCHOLARSHIP FUND

Established 1897 by gift of Mr. George W. Watts; the income to be used for scholarship aid to worthy students.

1,489.07

WEATHERBY SCHOLARSHIP FUND

Established 1912 by C. E. Weatherby, Faison, N. C.; the income to be used for scholarship aid to worthy students.

1,489.07

WEST CAMPUS CHEST SCHOLARSHIP FUND

Established 1954 by the male undergraduate students of Duke University for the purpose of providing scholarship awards to male students in residence in one of the undergraduate colleges.

762.49

FLORENCE K. WILSON SCHOLARSHIP FUND

Established 1955 by contribution from students of the School of Nursing; for the purpose of providing scholarship awards to students in the School of Nursing.

250.00

WOMAN'S COLLEGE MEMORIAL SCHOLARSHIP FUND

Established in 1953 in memory of Evelyn Barnes; the income to be used for scholarship aid to worthy students in the Woman's College.

5,534.72

WOMAN'S PANHELLENIC SCHOLARSHIP FUND

Established May 25, 1949 by gift of the Woman's College Panhellenic Association; income to be used for scholarship aid for a rising senior in the Woman's College of Duke University.

2,978.89

TOTAL \$1,249,539.82**NOTE**

Certain Scholarship Funds established for the benefit of students of Duke University have independent trustees. The following information is furnished by the trustee:

MARY ALYSE SMITH SCHOLARSHIP FUND

"Established December, 1946 by Mary Alyse Smith, '30, of Burlington, North Carolina, and her father, Marvin B. Smith, with Durham Bank & Trust Company as Trustee; supplemented in 1947 and 1948. Income to be used for scholarship aid to worthy North Carolina boys or girls entering the Freshman Class."

Book Value, June 30, 1955—\$15,962.27

SCHEDULE D—STUDENT LOAN FUNDS

	BOOK VALUE
ALUMNI LOAN FUND	
Established 1915 by gift from the Alumni Association.	\$ 751.54
ALBERT ANDERSON LOAN FUND	
Established in October, 1952 by bequest of Albert Anderson for aiding and assisting in the education of worthy and deserving young men and women of the Methodist faith.	5,187.86
CHARLES WHITLOCK BANNER LOAN FUND	
Established 1953 by gift from Mrs. Edward B. Benjamin; the income to be used for loans to medical students.	1,071.10
PAUL M. BARRINGER BEQUEST FUND	
Established 1932 by bequest from Paul M. Barringer; the income to be used in educating worthy young people, preference to be given those from Rowan County, N. C.	12,487.44
BYNUM BELOTE LOAN FUND	
Established 1924 by E. T. Belote of Asheville, N. C., in memory of his son, Alfred Bynum Belote, student 1923-24.	2,837.50
A. D. BETTS LOAN FUND	
Established 1919 by Reverend G. W. Vick, '11, and wife, in memory of Reverend A. D. Betts, a member of the North Carolina Conference; other contributions by Reverend W. A. Betts and Mrs. L. P. Wilkins; to be used for the aid of young men preparing for the ministry.	1,282.31
FANNIE CARR BIVINS MEMORIAL LOAN FUND	
Established 1928 by the Alumnae Association in memory of Fannie Carr Bivins, '96; income to be loaned to young women students upon the recommendation of the Alumnae Council and approval by the Dean of Women.	3,042.58
BRANSON LOAN FUND	
Established 1953 by bequest of Mrs. Clara S. Odell; the income to be used for loans to needy students.	3,659.68
CHRISTIAN EDUCATION LOAN FUND	
Established 1921 as a part of the Christian Education movement of the Methodist Church in North Carolina; for use as a general loan fund.	1,414.65
CLASS OF 1902 LOAN FUND	
Established 1932 by the members of the class at their 30th Anniversary Reunion.	510.64
JESSE A. CUNINGGIM LOAN FUND	
Established 1896 by Reverend J. A. Cuninggim, '90; to be loaned to young men preparing for the ministry.	15,048.96

Schedule D (Continued)—Student Loan Funds

BOOK VALUE

ALEXANDER EDENS MEMORIAL LOAN FUND

Established 1920 by Lacy T. Edens, '24, Cora R. Edens, John A. Edens, L. D. Edens, '15, and L. F. Edens, in memory of Alexander Edens. \$ 2,306.97

SCHOOL OF FORESTRY LOAN FUND

Established 1940 by gifts of various persons; to be used for the aid of students in the School of Forestry. 754.78

GENERAL LOAN FUND

Established 1900 by the North Carolina Conference and supplemented from time to time by additional contributions by both the North Carolina Conference and the Western North Carolina Conference to be used for no other purpose than to aid worthy students of the University. 68,610.11

W. O. GOODE EDUCATIONAL LOAN FUND

Established 1923 by Reverend W. O. Goode of the Western North Carolina Conference. 1,159.01

MARY HESTER HAMBRICK LOAN FUND

Established 1925 by W. R. Hambrick, Haldah Satterfield, John Jackson Hambrick, '16, and Dr. Robert T. Hambrick, '19, in memory of Mary Hester Hambrick, wife and mother; loans to be made to any needy students, preferably from Person County, N. C. 1,471.20

F. M. HANES GRADUATE MEDICAL LOAN FUND

Established in December, 1952 by transfer from the Expendable Special "F. M. Hanes Bequest to the School of Medicine Fund"; to be used for loans to Post-Graduate Medical Students. 9,728.88

P. FRANK HANES LOAN FUND

Established 1934 by P. Frank Hanes, '11; administered by a Loan Fund Committee of the Law School; loans to needy and deserving law students. 2,861.20

B. D. HEATH LOAN FUND

Established 1921 by B. D. Heath of Charlotte, N. C.; income to be used for students preparing for the ministry, preference to be given to one student annually from Union County, N. C. 8,618.32

HOLMES-McCAUSLAND LOAN FUND

Established 1946 by gifts of Alfred M. McCausland and Frances Holmes McCausland in memory of their parents; the principal or income to be used for loans to students in the Divinity School. 8,150.37

Schedule D (Continued)—Student Loan Funds

BOOK VALUE

HOLLAND HOLTON MEMORIAL LOAN FUND

Established March, 1948, by friends and former students in memory of Holland Holton, '07, Professor of Education and Director of the Summer School of Duke University for many years; to be used in helping worthy young men and women in securing a college education.

\$ 2,770.23

J. B. IVEY LOAN FUND

Established 1922 by J. B. Ivey of Charlotte, N. C.; to be used for loans to worthy students.

2,150.67

W. K. KELLOGG FOUNDATION LOAN FUND FOR MEDICAL STUDENTS

Established 1942 by gift of the W. K. Kellogg Foundation; to be used for loans to medical students.

17,937.50

W. K. KELLOGG FOUNDATION LOAN FUND FOR MEDICAL TECHNOLOGY

Established 1943 by gift of the W. K. Kellogg Foundation; to be used for loans to students in the field of medical technology.

2,017.64

W. K. KELLOGG FOUNDATION LOAN FUND FOR NURSES

Established 1942 by gift of the W. K. Kellogg Foundation; to be used for loans to students in the School of Nursing.

3,159.65

W. K. KELLOGG FOUNDATION LOAN FUND FOR PHYSICAL THERAPY

Established 1943 by gift of the W. K. Kellogg Foundation; to be used for loans to students receiving training in physical therapy.

4,083.11

MEDICAL POST-GRADUATE LOAN FUND

Established 1955 by transfer from F. M. Hanes Graduate Loan Fund; to be used for loans to post-graduate students in medicine.

8,850.00

MEDICAL STUDENTS LOAN FUND

Established 1941 by gifts of various persons.

249.17

MINISTERIAL EDUCATION LOAN FUND

Established 1915 by the North Carolina Conference of the Methodist Church; to be used for loans to students preparing for the ministry.

2,694.48

WILLIAM NEAL STUDENT AID FUND

Established 1920 by John W. Neal in memory of his son, William Neal, student in 1919; to be used for loans to worthy and needy students.

2,462.55

NORTH CAROLINA CONFERENCE BOARD OF CHRISTIAN
EDUCATION LOAN FUND

Established 1931 by gift of the Board of Christian Education of the North Carolina Conference; to be used for loans to students preparing for the ministry or other distinctive type of Christian service.

4,434.77

Schedule D (Continued)—Student Loan Funds

BOOK VALUE

W. N. REYNOLDS LOAN FUND

Established by W. N. Reynolds, '86, of Winston-Salem, N. C.; to be used for loans to boys and girls of North Carolina seeking an education at Duke University; preference, however, to be given to graduates of the Nancy Cox Reynolds Memorial School, and the sons of employees of the R. J. Reynolds Tobacco Company, regardless of residence. In the discretion of the Executive Committee and under certain conditions, scholarships may be provided from the income from the fund.

\$ 418,770.01

ROANOKE RAPIDS HIGH SCHOOL LOAN FUND

Established 1925 by the graduating class of the Roanoke Rapids High School, Roanoke Rapids, N. C.; to be used for loans to students who are graduates of that school.

442.09

SCOTT LOAN FUND

Established in October, 1952 by Mr. I. M. Scott, '32, to be used for loans to Medical Students.

3,037.75

SURGICAL POST-GRADUATE LOAN FUND

Established 1954 by transfer from the Department of Surgery Fund; to be used for loans to Post-graduate students in surgery.

4,105.00

ELLA WESTCOTT TUTTLE LOAN FUND

Established 1923 by Reverend D. H. Tuttle, '80, in memory of his wife, Ella Westcott Tuttle; to be used for loans to worthy young women, seeking an education at Duke University.

2,446.78

JOSHUA VICK MEMORIAL LOAN FUND

Established 1920 by Mrs. J. W. Vick in memory of her husband, Joshua Vick; to be used for loans to needy students.

1,245.42

WAKE COUNTY ALUMNAE LOAN FUND

Established 1924 by the Raleigh Chapter of the Alumnae Association; to be used for loans to worthy women students.

1,948.43

HENRY CARSON WEST LOAN FUND

Established 1954 by gift from H. Carson West, '17; to provide loans for upper-classmen from North Carolina.

185.02

WINSTON-SALEM DISTRICT OF NORTH CAROLINA

CONFERENCE LOAN FUND

Established 1923 by the Winston-Salem District of the Western North Carolina Conference of the Methodist Church; to be used for loans to students preparing for the ministry from the Winston-Salem District.

2,741.05

MARY POAGE WOOTEN LOAN FUND

Established 1922 by Reverend John C. Wooten, '98, in memory of his wife, Mary Poage Wooten; to be used for loans to worthy students.

1,318.85

TOTAL \$638,005.27

SCHEDULE E—CURRENT RESTRICTED FUNDS

<i>Particulars</i>	<i>Balance</i>		<i>Received</i>	<i>Disbursed</i>	<i>Balance</i>	
	<i>June 30, 1954</i>				<i>June 30, 1955</i>	
Abbott Laboratories Research.....	\$	\$ 500.00	\$	\$ 500.00		
Accepted Supply Pastors' School Fund.....	5,773.10	8,768.11	7,506.06	7,035.15		
Air Force:						
Contract AF18(600)-496.....	1,913.97*	1,793.04	128.84	249.77*		
Contract AF18(600)-497.....	45,917.96*	128,579.34	110,866.78	28,205.40*		
Contract AF18(600)-554.....	2,759.70*	7,979.75	9,424.04	4,203.99*		
Contract AF18(600)-1341.....	.....	.....	1,150.55	1,150.55*		
Contract AF19(604)-258.....	486.18*	486.18	.....	.....
Contract AF33(616)-377.....	3,244.36*	14,304.88	13,860.47	2,799.95*		
Contract AF33(616)-441.....	1,095.67*	485.59	194.28	804.36*		
Allied Chemical and Dye Corporation:						
Fellowship.....	2,224.70	2,150.00	1,969.94	2,404.76		
American Cancer Society:						
Grant CH-29.....	.....	6,954.00	6,927.66	26.34		
Grant F-154 to M. Tabachnick.....	19.24	.....	.....	19.24		
Grant F-192 to Dr. Werk.....	500.00	.....	500.00	.....	
Grant to Dr. Corales.....	50.00	.....	50.00	.....	
Grant SG-11.....	.....	6,000.00	6,000.00	.....	
Metabolism Fund.....	1,667.03	6,000.00	7,723.98	56.95*		
Grant to Dr. A. W. Naylor.....	770.15	4,552.00	4,849.77	472.38		
Virus Research.....	.....	12,500.00	7,454.29	5,045.71		
American Cyanamid Company:						
Exhibit Fund.....	.....	1,250.00	1,250.00	.....	
Fellowship in Biochemistry.....	1,044.84	149.50	491.56	702.78		
Graduate Fellowship in Chemistry.....	746.07	2,270.00	2,469.94	546.13		
Grant for Pellagra Research Fund.....	223.31	.....	.....	223.31		
Grant for Purchase of Centrifuge.....	10,000.00	.....	9,149.84	850.16		
Hog Cholera Research Fund.....	19,148.81	.....	.....	19,148.81		
Medical Student Research Fellowship.....	.....	2,400.00	1,200.00	1,200.00		
Pathelon Research Fund.....	5,000.00	.....	.....	5,000.00		
American Heart Association:						
Grant to Dr. J. V. Warren.....	4,694.79	5,250.00	3,358.04	6,586.75		
Hypertension Research Fund.....	163.15	.....	163.15	.....	
Metabolism Study—Dr. Kirby.....	280.49	4,200.00	3,073.07	1,407.42		
American Medical Association Grant No. 139..						
Anatomy Department Postgraduate Fund.....	1,347.79	.....	371.24	976.55		
Anesthesia and Surgical Appliance						
Research Fund.....	29,119.84	6,451.90	4,705.49	30,866.25		
Army:						
Contract DA-18-064-CML-485.....	1,640.38*	1,640.38	.....	.....
Contract DA-18-064-404-CML-3481.....	987.81*	9,747.18	12,713.88	3,954.51*		
Contract DA-31-124-ORD-1.....	.....	1,745.92	7,828.85	6,082.93*		
Contract DA-36-034-ORD-295RD:						
Task Order IV.....	454.50*	454.50	.....	.....
Task Order V.....	966.15*	.....	.....	966.15*		
Task Order VI.....	6.75	.....	6.75	.....	
Task Order VII.....	2,127.56*	2,875.40	747.84	.....	
Task Order VIII.....	1,019.21*	2,558.96	2,097.22	557.47*		
Task Order IX.....	2,218.07*	2,974.22	1,295.17	539.02*		
Contract DA-36-034-ORD-958RD.....	17,045.81*	17,045.81	.....	.....
Contract DA-36-034-ORD-1180RD.....	8,501.66*	33,014.17	30,559.43	6,046.92*		
Contract DA-36-034-ORD-1233RD.....	5,511.36*	25,021.54	24,519.84	5,009.66*		
Contract DA-36-034-ORD-1535.....	5,342.23*	85,948.33	90,215.07	9,608.97*		
Contract DA-44-099-eng-1039.....	17,437.25*	22,498.00	9,296.30	4,235.55*		
Contract DA-44-109-QM-1261.....	6,015.85*	3,556.27	1,380.91	3,840.49*		

*Indicates Deficit.

Schedule E (Continued)—Current Restricted Funds

Particulars	Balance	Received	Disbursed	Balance
	June 30, 1954			June 30, 1955
Contract DA-44-109-QM-1552.....	3,783.15*	2,542.96	1,318.92	2,559.11*
Contract DA-49-007-MD-134.....	5,260.83*	12,900.84	10,286.97	2,646.96*
Contract DA-49-007-MD-375.....	43.88*	43.89	.01	.....
Contract DA-49-007-MD-383.....	810.00*	2,663.22	1,853.22	.....
Contract DA-49-007-MD-456.....	5,133.08*	5,139.73	6.65	.....
Contract DA-49-007-MD-487.....	6,500.48*	11,402.73	6,429.73	1,527.48*
Contract DA-49-007-MD-492.....	1,808.30*	1,808.30	.....	.....
Contract DA-49-007-MD-607.....	.....	3,934.61	5,566.52	1,631.91*
PRS (AGO) Contract DA-49-083-OSA-155..	13.15	.....	13.15	.....
Atomic Energy Commission:				
Contract AT(40-1)289-Title 2.....	780.30	12,600.00	12,929.26	451.04
Contract AT(40-1)1031.....	291.66*	5,688.00	5,661.04	264.70*
Contract AT(40-1)1067.....	21,823.38*	24,648.04	3,517.41	692.75*
Contract AT(40-1)1067 No. 2.....	.....	80,669.70	85,572.68	4,902.98*
Contract AT(40-1)1526.....	91.14*	3,640.00	2,195.33	1,353.53
Contract AT(40-1)1630.....	15.68	.....	250.00	234.32*
Contract AT(40-1)1646.....	2,262.77	5,505.00	3,512.13	4,255.64
Contract AT(40-1)1647.....	2,048.09	8,126.00	11,623.60	1,449.51*
Ayerst Laboratories:				
Endocrine Fund.....	7,939.57	3,600.00	1,836.00	9,703.57
Grant to Division of Anesthesiology.....	2,034.47	1,500.00	3,340.46	194.01
Mona Ames Bagby Memorial Fund.....	15.75	.....	15.75	.....
Baxter Laboratories, Inc.:				
Fibroblastic Proliferation Studies.....	123.92	.....	123.92	.....
Pyromen Studies.....	1,541.76	10,000.00	8,308.65	3,233.11
George Baylin Radio Research Fund.....	.....	1,500.00	1,207.04	292.96
Dorothy Beard Research Fund.....	163,876.59	7,932.03	9,716.08	162,092.54
Borden Undergraduate Research Award				
in Medicine.....	3,022.55	.....	1,000.00	2,022.55
Borden's Pediatric Allergy Research Fund.....	.....	5,000.00	3,246.29	1,753.71
Botany Fertilizer Research Project.....	1,287.36	.....	423.96	863.40
Frank C. Brown Folklore Collection.....	4,424.27	.....	.....	4,424.27
Brunswick Pulp Research Fund.....	3,222.74	.....	2,542.38	680.36
Burroughs, Wellcome & Company Grant				
to Division of Anesthesia.....	1,948.03	.....	731.62	1,216.41
CBS Foundation Obstetrics Fund.....	.....	700.00	441.93	258.07
Cancer Hospitalization Fund.....	763.20	.....	116.66	646.54
Cardiovascular Research Fund.....	7,196.58	4,620.66	3,186.51	8,630.73
Carnegie Corporation Commonwealth				
Studies Fund.....	.....	50,000.00	10,859.41	39,140.59
Carnegie Foundation Fund.....	2,519.91	67,766.67	67,383.20	2,903.38
Catalogue for the Trent Collection Fund.....	2,000.00	.....	.....	2,000.00
Check List for Scientific Periodics.....	.....	1,200.00	1,129.30	70.70
China Medical Board, Inc. Grant to				
School of Nursing.....	18,222.90	.....	3,455.49	14,767.41
Christian Convocation Fund.....	1,229.46	2,977.50	2,040.28	2,166.68
Ciba Pharmaceutical Products, Inc.:				
"Antrenyl Plus Serpasil" Fund.....	500.00	.....	181.32	318.68
Coramine Fund.....	146.00	.....	.....	146.00
Grant to Dr. Susan G. Dees.....	1,391.15	.....	1,556.75	165.60*
Grant to Division of Anesthesia.....	4,870.88	2,500.00	3,770.33	3,600.55
Grant to Dr. Ruffin.....	59.17	.....	59.17	.....
Hypertension Research Fund.....	3,063.56	2,500.00	1,905.84	3,657.72
"Serpasil" Research Fund.....	105.91	.....	105.91	.....
Cold Desert Study Fund.....	840.00	.....	40.00	800.00

*Indicates Deficit.

Schedule E (Continued)—Current Restricted Funds

<i>Particulars</i>	<i>Balance</i>		<i>Received</i>	<i>Disbursed</i>	<i>Balance</i>	
	<i>June 30, 1954</i>				<i>June 30, 1955</i>	
Crippled Children's Spastic Orthopedic Fund..	26,616.41				26,616.41	
Department of Pathology Neuropathologic						
Research Fund.....	100.62				100.62	
Department of Surgery Fund.....	494,059.27	129,535.81	73,381.12	550,213.96		
Divinity School Fund.....	303.04	313.50	823.50	206.96*		
Duke Forest Fund.....	14,176.38	23,689.86	18,946.73	18,919.51		
Doris Duke Foundation:						
Studies in Fertility Fund.....	4,670.33		2,706.03	1,964.30		
Obstetrics—Gynecology Program.....	10,074.21		7,073.83	3,000.38		
Hospital Playroom.....		18,000.00		18,000.00		
Pediatric Study.....	10,000.00		6,730.17	3,269.83		
Radiology.....		2,000.00	380.80	1,619.20		
Taiwan University.....		5,000.00		5,000.00		
Duke Hospital Social Service Fund.....	24,149.52	20,000.00	24,149.52	20,000.00		
Duke Memorial Fund.....	913.71			913.71		
Duke Memorial Etching Fund.....	599.29	162.00	75.00	686.29		
Duke University Nursery School Fund.....	834.09	4,601.00	4,402.48	1,032.61		
Duke University Plate Fund.....		3,745.18	3,302.12	443.06		
DuPont:						
Postgraduate Fellowship in Chemistry Fund	6,068.65		6,569.97	501.32*		
Postgraduate Fellowship in Physics.....	1,080.00	3,770.00	4,828.49	21.51		
Summer Research Fund.....	627.40	1,500.00	1,175.00	952.40		
Durham-Orange County Heart Association						
Grant to Dr. Hickam.....		500.00		500.00		
Edgecomb-Nash Heart Association Grant to						
Dr. Sieker.....	989.50			989.50		
E.E.G. Laboratory Account Fund.....	988.52	14,847.51	13,323.19	2,512.84		
Endometrial Study Grant.....	3,119.87		508.45	2,611.42		
Engineering College Research Fund.....	3,938.35	6,340.00	5,845.67	4,432.68		
Fifteenth Anniversary Duke Hospital						
Social Service Fund.....	94.54			94.54		
Ford Foundation Grant to Dr. Spengler.....	4,836.65		1,080.00	3,756.65		
Ford Foundation International Legal Studies..		5,000.00	2,956.77	2,043.23		
Forest Operations for Duke Power						
Company Fund.....	5,701.71	2,299.63		8,001.34		
Forest Soils Drainage Research Fund.....	10,340.81	2,516.00	768.83	12,087.98		
Forestry Bulletin Fund.....	3,381.05	1,031.85	2,484.00	1,928.90		
Forestry School Forest Utilization Fund.....	126.53	75.14		201.67		
E. Fougera & Co. Anesthesiology Research						
Fund.....	27.16			27.16		
Friends of Duke University Library Fund.....	1,321.87	666.86	900.87	1,087.86		
General Alumni Fund.....	5,733.43	2,296.00	6,137.79	1,891.64		
General Education Board Development of						
the Graduate School Fund.....	122,503.56	190,000.00	200,143.93	112,359.63		
General Foods Corporation Research.....		3,000.00		3,000.00		
Gifts for Research in Obstetrics and						
Gynecology Fund.....	10,354.96	32.50		10,387.46		
Katharine E. Gilbert Memorial Fund.....	268.15		268.15			
Graduate School Thesis Fund.....	6,185.21	1,500.00	40.00	7,645.21		
James A. Gray Fund.....	8,950.33	3,676.87	5,181.62	7,445.58		
Gynecology and Obstetrics Special Fund.....	14,422.62	19,597.90	18,401.55	15,618.97		
Anna H. Hanes Research Fund.....	599,984.50	156,290.85	129,841.96	626,433.39		
F. M. Hanes Bequest:						
Department of Medicine Fund.....	54,308.61	19,035.91	5,776.00	67,568.52		
Duke Medical School Fund.....	5,542.68	18,135.91	24,204.63	526.04*		

*Indicates Deficit.

Schedule E (Continued)—Current Restricted Funds

Particulars	Balance		Received	Disbursed	Balance	
	June 30, 1954				June 30, 1955	
P. Huber Hanes Publication Fund.....	970.90		400.00	970.90		400.00
A. P. Harris Fund for Nursing Moribund						
Patients.....	29,855.60	41,635.83	35,400.25	36,091.18		
J. Welch Harriss Library Book Fund.....		600.00	155.50	444.50		
Hematology Research Fund.....	3,021.34	3,899.52	5,851.40	1,069.46		
Henderson County Cancer Society Grant.....		1,000.00		1,000.00		
Raymond C. Henyan Fellowship in Paraplegia.....	5,000.00	5,000.00	3,730.06	6,269.94		
Hercules Powder Company Contract						
NORD 10431; Sub-contract 4.....	4,876.87*	10,696.07	8,744.78	2,925.58*		
Frank S. Hickman Prize in Preaching Fund....	90.00		90.00			
Hoffman-LaRoche Urology Research.....		2,430.00	390.00	2,040.00		
Horneman Research Fund.....	7,049.06			7,049.06		
Hospital Administrative Fund.....	32,903.60	16,812.14	13,746.39	35,969.35		
Hospital Library Lost Book Fund.....	100.77	6.79		107.56		
Industrial Research Fund.....	16,661.71	10,000.00	6,669.25	19,992.46		
Japan Society Inc. Grant.....	2,000.00	2,000.00	3,000.00	1,000.00		
W. K. Kellogg Foundation Postgraduate						
Medical Education Fund.....	54.83			54.83		
Law Library Book Fund.....	243.40		244.06	.66*		
Law Library Lost Book Fund.....	174.44	273.98	15.72	432.70		
Law School Conference.....		1,500.00	876.71	623.29		
Lawyers Title Foundation Prize Fund.....		100.00	100.00			
Robert E. Lee Prize Fund.....	50.00	50.00	50.00	50.00		
Thomas Leeming and Co. Research on						
Nephenalin.....	9.79			9.79		
Library Fee Fund.....	8,288.22	6,319.75		14,607.97		
Library Fee Reserve Fund.....	39,865.82	31,730.25	41,589.76	30,006.31		
Life Insurance Medical Research:						
Cardiac Studies Fund.....	3,555.79		3,555.79			
Cardiovascular & Respiratory Research....		14,555.79	16,263.40	1,707.61*		
Grant for Protein Research Fund.....	1,804.61*	1,804.61				
Grant to Dr. Burnum.....	72.30		42.43	29.87		
Grant to Dr. Herbert O. Sieker.....		500.00	428.14	71.86		
Hypertension Research Fund.....		13,344.42	11,838.24	1,506.18		
Eli Lilly and Company:						
Carbohydrates Metabolism Fund.....	4,441.74		4,441.61	.13		
Fellowship in Chemistry.....	115.98	341.66		457.64		
Research in Synthetic Organic Medicinals..	1,800.00	1,800.00	1,599.98	2,000.02		
Loblolly Pine Monograph Fund.....	1,100.00	6,600.00		7,700.00		
Lost Book Fund.....	9,559.59	2,327.53	2,396.29	9,490.83		
Lutheran Student Gift Fund.....	94.83		40.00	54.83		
William McDougall Research Fund.....	37,028.84	22,200.17	27,402.67	31,826.34		
John and Mary R. Marle Foundation:						
Fellowship in Medical Science.....	6.02		6.02			
Fellowship to Dr. W. G. Anlyan.....	5,595.00		5,595.00			
Fellowship to Dr. W. J. A. DeMaria.....	5,944.50		5,944.50			
Fellowship to Dr. Wayland E. Hull.....	6,000.00		6,000.00			
Fellowship to Dr. S. P. Martin.....	5,668.48		4,168.44	1,500.04		
Fungus Research Fund.....	2,070.72			2,070.72		
Mathematics Mural Fund.....	600.00			600.00		
Medical Anesthesia Fund.....	1,116.77		761.08	355.69		
Medical Illustration Fund.....	178.98	4,905.39	511.80	4,572.57		
Medical Research Fund.....	19,698.48	20,000.00	18,213.39	21,485.09		
Medical School History Publication Fund.....	538.10*	162.50		375.60*		
Methodist Church Divinity School Fund.....	4,233.46	3,744.29	2,821.54	5,156.21		

*Indicates Deficit.

Schedule E (Continued)—Current Restricted Funds

Particulars	Balance June 30, 1954	Received	Disbursed	Balance June 30, 1955
Methodist Church Divinity School				
Pension Fund.....	8,800.00	.....	3,150.00	5,650.00
Miscellaneous Awards & Prizes.....	.....	25.00	25.00	.....
Monsanto Chemical Corporation Fellowship in the Department of Chemistry.....	4,990.30	3,070.00	3,039.59	5,020.71
Muscular Dystrophy Research Fund.....	.54	.....	.....	.54
National Foundation for Infantile Paralysis, Inc:				
Motion Picture Grant Fund.....	45,616.57	.....	41,818.79	3,797.78
Muscular Research Fund.....	.04	.....	.04	.....
Physical Therapy Fund.....	2,526.38	.....	2,708.69	182.31*
Research in Tissue Culture.....	13,838.64	.....	13,838.64	.....
National Science Foundation:				
Grant NSF-G352.....	4,140.00	.....	3,519.00	621.00
Grant NSF-G386.....	1,172.30	.....	1,172.30	.....
Grant NSF-G524.....	3,227.08	.....	3,227.08	.....
Grant NSF-G531.....	7,946.19	8,400.00	9,396.86	6,949.33
Grant NSF-G633.....	2,608.59	1,500.00	2,792.02	1,316.57
Grant NSF-G634.....	5,283.33	2,900.00	5,070.63	3,112.70
Grant NSF-G669.....	1,385.32	1,800.00	4,446.62	1,261.30*
Grant NSF-G798.....	3,310.00	4,000.00	2,914.79	4,395.21
Grant NSF-G1085.....	.....	7,900.00	5,379.17	2,520.83
Grant NSF-G1137.....	.....	8,300.00	3,376.63	4,923.37
Grant NSF-G1161.....	.....	8,400.00	275.26	8,124.74
Grant NSF-G1214.....	.....	3,500.00	2,378.12	1,121.88
Grant NSF-G1252.....	.....	9,100.00	3,448.83	5,651.17
Grant NSF-G1713.....	.....	12,000.00	287.60	11,712.40
Grant NSF-P262.....	3,126.69	.....	3,023.74	102.95
National Tuberculosis Association Vitamin Research Fund.....	3,659.79	7,689.69	8,413.76	2,935.72
Navy:				
Contract Nobs-66254.....	.....	.....	1,552.11	1,552.11*
Contract Nonr-150(00).....	3,322.64	8,059.00	5,821.85	5,559.79
Contract Nonr-247(00).....	173.62*	173.62	.....	.....
Contract Nonr-473(00).....	6,979.60	6,525.50	5,781.11	7,723.99
Contract Nonr-1016(00).....	645.34	5,683.00	4,897.72	1,430.62
Contract Nonr-1069(00).....	1,075.02*	.....	1,287.00	2,362.02*
Contract Nonr-1083(00).....	3,079.11*	2,050.00	.....	1,029.11*
Contract Nonr-1153(00).....	1,669.11	221.95	.....	1,891.06
Contract Nonr-1181(01).....	2,161.54*	2,154.92	.....	6.62*
Contract Nonr-1181(02).....	4,039.71*	8,805.17	6,997.11	2,231.65*
Contract Nonr-1181(03).....	2,561.34*	6,335.07	6,040.51	2,266.78*
Contract Nonr-1181(04).....	.....	.....	3,513.32	3,513.32*
Contract Nonr-1181(05).....	.....	.....	4,150.79	4,150.79*
Contract Nonr-1232(00).....	857.17*	2,211.00	1,353.83	.....
Contract Nonr-1537(00).....	.....	2,600.00	2,707.21	107.21*
Contract N6-ori-107; T.O. 1.....	4,048.08*	9,032.68	6,968.08	1,983.48*
Contract N7-onr-455:				
Task Order 1.....	218.50*	218.50	502.64	502.64*
Task Order 2.....	1,599.77*	3,455.12	2,198.79	343.44*
Task Order 3.....	2,628.41*	6,206.79	6,140.96	2,562.58*
Task Order 5.....	1,018.23*	3,305.13	3,253.79	966.89*
Task Order 6.....	160.63*	160.63	.....	.....
Negro Practical Nurses Training Program in N. C.....	.....	5,500.00	2,523.25	2,976.75
Neuman Medical Research Fund for Research in Angina and Sarcoidosis.....	1,000.00	.....	1,000.00	.....

*Indicates Deficit.

Schedule E (Continued)—Current Restricted Funds

<i>Particulars</i>	<i>Balance June 30, 1954</i>	<i>Received</i>	<i>Disbursed</i>	<i>Balance June 30, 1955</i>
Neurosurgery Department Fund.....	11,976.84	100.00	5,180.07	6,896.77
North Carolina Heart Association:				
Arterial Graft Preservation.....	434.73	.....	434.73	.....
Blood Flow Study by Dr. Myers.....	500.00	.....	500.00	.....
Grant to Dr. J. B. Hickam.....	1.34	.....	1.34	.....
Image Converter Grant to Dr. J. B. Hickam.....	400.00	.....	.....	400.00
Metabolism Study.....	455.20	.....	535.55	80.35*
Grant to Dr. Peschel.....	.....	500.00	500.00	.....
Study of Congenital Heart Disease.....	400.00	.....	400.00	.....
Nurse Anesthesia Fund.....	728.35	.....	148.29	580.06
Obstetrics and Gynecology Bacteriologic Research Fund.....	2,288.00	1,500.00	2,089.64	1,698.36
Ophthalmology Department Fund.....	2,396.69*	11,345.00	5,020.63	3,927.63
Out-patient Experiment Fund.....	8,000.00	8,500.00	.....	16,500.00
Oxygen Therapy Fund.....	.....	2,000.00	979.52	1,020.48
Parapsychology Research of Dr. Hornell Hart Fund.....	1,929.95	1,000.00	2,692.53	237.42
Pastoral Care Research Fund.....	169.59	125.37	340.50	45.54*
Pediatrics Department Fund.....	15,448.34	15,260.64	11,521.54	19,187.44
Physical Therapy Fund.....	387.06	.....	198.00	189.06
Plastic Surgery Fund.....	1,360.67	2,603.89	.....	3,964.56
Population Council, Inc. Fellowship Fund.....	2,500.00	.....	2,500.00	.....
Psychiatry Department Operating Account.....	23,106.28	29,480.36	18,394.08	34,192.56
Psychology Research Fund.....	3,135.46	4,800.00	4,958.61	2,976.85
Research Corporation:				
Investigation on Chemical Bonds.....	.....	3,875.00	9.51	3,865.49
Microwave Research Fund.....	2,500.00	1,500.00	1,254.77	2,745.23
Molecular Research Fund.....	106.07	.....	.....	106.07
Research in Humanities Fund.....	85.80	400.25	400.25	85.80
Research Publication Fund.....	4,703.82	409.64	3,200.00	1,913.46
Mary E. Rieck Memorial Fund.....	214.78	.....	.....	214.78
Rockefeller Foundation:				
Grant GA-SS-5451.....	.....	2,600.00	2,600.00	.....
Research in Economic Theory.....	.....	3,300.00	495.00	2,805.00
Studies of Differences in State Per Capita Income Fund.....	3,209.39	9,422.44	9,184.75	3,447.08
Damon Runyon:				
Research on Effects of Smoke Aerosols.....	35,200.48	49,500.00	47,484.80	37,215.68
Virus Research Grant.....	7,826.58	.....	7,919.92	93.34*
Schering Corporation Healing of Fractures Fund.....	187.29	.....	.....	187.29
G. D. Searle and Company:				
Research in Use of Banthine Fund.....	289.78	.....	289.78	.....
Synthetic Drugs Research Fund.....	4,400.28	4,000.00	942.34	7,457.94
Robert E. Seibels, Jr., Memorial Laboratory Fund.....	111.07	25.00	.....	136.07
Sharpe and Dohme, Inc.:				
Darstine Research.....	4,940.20	503.81	5,444.01	.....
Grant for Study of Ulcers.....	321.96	.....	321.96	.....
Retintin Research Fund.....	740.62	.....	.....	740.62
Shell Oil Company Fellowship in Physics Fund..	1,629.34	2,470.00	2,719.94	1,379.40
William H. Simpson Fund.....	.....	600.00	.....	600.00
Sloan-Kettering Institute Grant for Cancer Research.....	30.36	.....	5.23	25.13

*Indicates Deficit.

Schedule E (Continued)—Current Restricted Funds

<i>Particulars</i>	<i>Balance June 30, 1954</i>	<i>Received</i>	<i>Disbursed</i>	<i>Balance June 30, 1955</i>
Smith, Kline and French:				
Grant for Study of Ulcers.....	4,307.97	.....	1,109.15	3,198.82
Grant to Dr. Callaway.....	5,109.97	1,500.00	1,562.46	5,047.51
Grant to Division of Anesthesiology.....	.....	1,500.00	828.03	671.97
Grant to Dr. Engel.....	.....	5,000.00	.....	5,000.00
Grant to Dr. Orgain.....	305.66	.....	305.66	.....
Pilot Study SKF-2461G—Dr. Ruffin.....	81.52	440.16	506.79	14.89
Grant to Dr. Schwartz.....	.....	1,000.00	651.21	348.79
Study of X-ray Sickness Funl.....	438.41	.....	417.49	20.92
Lily Webb Smith Fund for Under-privileged Children.....	8,264.98	3,305.44	2,661.52	8,908.90
Spanel Foundation, Inc.:				
Fund for Blood Research.....	1,956.32	.....	1,956.32	.....
Grant to Dr. S. P. Martin.....	880.20	.....	465.07	415.13
Special Endocrine Fund.....	5,935.56	1,500.00	895.80	6,539.76
Special Gifts for Library Books Fund.....	18,796.22	19,271.59	19,584.81	18,483.00
Squibb Research in Carcin-Genecity.....	5,225.64	.....	4,997.44	228.20
Student Project Fund.....	250.00	.....	.....	250.00
Summer Orientation Program for Foreign Students—1954-55.....	230.55	14,441.09	14,717.98	46.34*
Surgery Clinical Research Laboratory Fund....	12,035.74	5,000.00	307.27	16,728.47
Surgical Research Fund.....	116,361.62	1,561.00	3,382.20	114,540.42
Surgical Shop Fund.....	16,130.73	.....	7,937.29	8,193.44
Tennessee Eastman Corporation Fellowship....	2,870.00	.....	1,869.95	1,000.05
James A. Thomas Memorial Fund.....	466.66	.....	.....	466.66
Thoracic Research Fund.....	200.00	1,027.00	.....	1,227.00
Tobacco Industry Research Committee Fellowship.....	.....	500.00	.....	500.00
Tobacco Research Fund.....	27,936.29	35,000.00	38,050.24	24,886.05
Josiah Charles Trent Fund.....	135.00	.....	.....	135.00
Union Bag and Paper Corporation Forestry Fellowship Fund.....	348.13	1,480.81	1,471.03	357.91
Union Carbide and Carbon Corporation: Fellowship in Organic Chemistry.....	4,522.48	2,600.00	3,444.43	3,678.05
USDA A8FS-20148 Supp. No. 2.....	.....	2,000.00	.....	2,000.00
USDA A8FS-20148 Supp. No. 3.....	.....	3,000.00	.....	3,000.00
U. S.-OVR Teaching Grant No. 61.....	.....	3,112.00	1,547.22	1,564.78
U. S.-OVR Teaching Grant No. 62.....	.....	12,349.00	.....	12,349.00
U. S. Public Health Service:				
Grant A-129 (C).....	22.16	.....	22.16	.....
Grant A-142 (C).....	1,857.83	.....	1,857.83	.....
Grant A-581.....	5.82	.....	5.82	.....
Grant A-581 (C).....	2,671.46	2,700.00	5,371.46	.....
Grant A-581 (C2).....	.....	2,763.13	1,021.26	1,741.87
Grant A-861.....	.....	4,914.00	1,956.64	2,957.36
Grant B-617.....	3,616.75	.....	3,704.63	87.88*
Grant B-617 (C).....	.....	1,997.00	296.00	1,701.00
Grant B-669.....	12,300.00	.....	12,330.82	30.82*
Grant B-669 (C).....	.....	4,500.00	2,026.80	2,473.20
Grant B-748.....	.....	10,557.00	3,548.32	7,008.68
Grant C-972 (C5).....	15,794.27	.....	15,794.27	.....
Grant C-972 (C6) MI.....	.....	15,000.00	9,691.93	5,308.07
Grant C-1439 (C2).....	50.00*	50.00	.....	.....
Grant C-1439 (C3).....	1,386.98	2,268.00	3,647.27	7.71
Grant C-1439 (C4).....	.....	2,268.00	1,325.90	942.10

*Indicates Deficit.

Schedule E (Continued)—Current Restricted Funds

<i>Particulars</i>	<i>Balance June 30, 1954</i>	<i>Received</i>	<i>Disbursed</i>	<i>Balance June 30, 1955</i>
Grant C-1636 (C).....	9.02	.....	9.02	.....
Grant C-1741 (C).....	1,549.91	2,934.27	4,484.18	.....
Grant C-1741 (C2).....	.....	10,781.00	6,038.09	4,742.91
Grant C-1743 (C).....	4,504.17	.....	4,499.29	4.88
Grant C-1843.....	219.62	.....	219.62	.....
Grant C-1843 (C).....	835.50	3,211.00	4,046.50	.....
Grant C-1843 (C2).....	.....	3,402.00	2,442.80	950.20
Grant C-1859.....	37.37	.....	37.37	.....
Grant C-1859 (C).....	859.31	1,652.00	2,195.15	316.16
Grant C-2499.....	.....	5,706.00	3,137.08	2,568.92
Grant CF-4326.....	205.50	.....	205.50	.....
Grant CF-4326 (C).....	.....	500.00	303.44	196.56
Grant CT-542 (C4).....	38.00*	38.00	.....	.....
Grant CT-542 (C5).....	10,778.34	.....	10,778.34	.....
Grant CT-542 (C6).....	.....	24,924.00	17,182.53	7,741.47
Grant E-554 (C).....	1,105.23	2,209.99	3,315.22	.....
Grant E-554 (C2).....	.....	2,214.30	818.67	1,395.63
Grant E-695.....	3,566.63	.....	3,566.63	.....
Grant E-695 (C).....	.....	7,300.00	3,863.64	3,436.36
Grant E-700.....	2,479.56	.....	2,479.56	.....
Grant E-700 (C).....	.....	6,500.00	3,780.84	2,719.16
Grant E-861.....	.....	5,594.00	1,332.83	4,261.17
Grant EF-4841.....	.....	475.00	313.00	162.00
Grant FG-13.....	.....	1,728.00	1,400.00	328.00
Grant G-91 (C8).....	2,875.00	3,375.00	5,771.04	478.96
Grant G-283 (C7).....	3,975.90	695.97	4,671.87	.....
Grant G-283 (C8).....	.....	9,990.00	7,861.62	2,128.38
Grant G-2941 (C3).....	.....	8,871.00	6,654.60	2,216.40
Grant G-3271 (C).....	3,563.54	.....	3,564.02	.48*
Grant G-3400.....	7.00*	7.00	.....	.....
Grant G-3476 (C).....	213.36*	223.36	.....	10.00
Grant G-3476 (C2).....	.....	8,100.00	8,406.42	306.42*
Grant G-3555.....	1,062.05	.....	1,062.05	.....
Grant G-3560.....	6,674.58	.....	6,674.58	.....
Grant G-3636.....	470.46	.....	470.46	.....
Grant G-3807 (C).....	1,782.19	.....	1,782.19	.....
Grant G-3895.....	6.21	.....	6.21	.....
Grant G-3903.....	1,056.59	.....	1,056.59	.....
Grant G-4144.....	9,474.06	.....	9,474.06	.....
Grant GG-2151 (C).....	12.25*	12.25	.....	.....
Grant H-56 (C6).....	10,385.67	.....	10,385.67	.....
Grant H-56 (C7).....	.....	17,500.00	16,653.57	846.43
Grant H-229 (C3).....	66.00*	.....	.....	66.00*
Grant H-763 (C4).....	4,799.08	10,411.00	10,056.74	5,153.34
Grant H-1217.....	20.34	.....	20.34	.....
Grant H-1217 (C).....	3,276.85	30.34	3,307.19	.....
Grant H-1217 (C2).....	.....	11,000.00	9,828.39	1,171.61
Grant H-1226 (C3).....	4,351.52	.....	4,351.52	.....
Grant H-1226 (C4).....	.....	20,000.00	13,573.96	6,426.04
Grant H-1370 (C).....	5,225.16	.....	5,225.16	.....
Grant H-1370 (C2).....	.....	9,996.00	4,716.93	5,279.07
Grant H-1753.....	6,975.00	.....	8,545.60	1,570.60*
Grant H-1753 (C).....	.....	4,056.75	.....	4,056.75
Grant H-1782.....	.....	10,503.00	4,284.89	6,218.11
Grant H-1811.....	.....	4,212.00	4,513.93	301.93*

*Indicates Deficit.

Schedule E (Continued)—Current Restricted Funds

<i>Particulars</i>	<i>Balance June 30, 1954</i>	<i>Received</i>	<i>Disbursed</i>	<i>Balance June 30, 1955</i>
Grant H-1857.....		17,172.00	2,121.07	15,050.93
Grant H-2140.....		8,742.00	5,088.32	3,653.68
Grant H-4381.....	238.34		65.35	172.99
Grant HF-4809.....		500.00	500.00	
Grant HF-5074.....		500.00	457.30	42.70
Grant HT-257 (C4).....	1,449.56		1,449.56	
Grant HT-257 (C5).....		25,000.00	25,166.56	166.56*
Grant M-629.....	1,679.11		1,679.11	
Grant M-629 (C).....	4,141.05	7,487.00	7,915.12	3,712.93
Grant M-629 (C2).....		7,491.00	1,719.07	5,771.93
Grant M-631.....	2.72		2.72	
Grant M-631 (C).....	1,051.44	2,196.00	2,780.30	467.14
Grant M-887.....		5,400.00	3,525.70	1,874.30
Grant M-900.....		14,534.00	7,749.58	6,784.42
Grant M-1002.....		14,420.00	4,132.21	10,287.79
Grant 2M-5077 (C6).....	210.67	166.66	377.33	
Grant 2M-5077 (C7).....		25,134.00	22,841.61	2,292.39
Grant 2M-5170 (C5).....	3,396.43		3,396.43	
Grant 2M-5170 (C6).....		19,171.00	18,074.57	1,096.43
Grant 2M-5972.....	18.17		18.17	
Grant 2M-5972 (C).....		12,500.00	12,817.23	317.23*
Grant 2M-6144.....		8,400.00	8,293.33	106.67
Grant RG-91 (C7).....	98.10		98.10	
Grant RG-91 (C9).....		3,499.00	1,413.73	2,085.27
Grant RG-283 (C6).....	696.22		696.22	
Grant RG-869 (C6).....	545.46		545.46	
Grant RG-869 (C7).....		6,944.00	7,128.79	184.79*
Grant RG-1972 (C).....	478.18*	478.18		
Grant RG-2941 (C).....	45.39		45.39	
Grant RG-2941 (C2).....	2,357.59		2,357.59	
Grant RG-3555 (C).....		9,921.00	7,169.17	2,751.83
Grant RG-3560 (C).....		5,941.76	3,274.74	2,667.02
Grant RG-3807 (C2).....		5,153.00	3,351.60	1,801.40
Grant RG-3895 (C).....		2,080.00	1,903.96	176.04
Grant RG-3903 (C).....		5,498.00	4,100.18	1,397.82
Grant RG-4203.....		5,140.00	2,868.64	2,271.36
Upjohn Company Grant for Study of Ulcers.....	2.72		2.72	
Urological Research Fund.....	721.56	245.00		966.56
Wake County Alumni Fund.....	145.00			145.00
West Virginia Experimental Forest Library Research Fund.....	150.12			150.12
Weltman Laboratory Account.....	283.94	390.73	339.55	335.12
Winthrop-Stearns Demerol Research— Dr. C. R. Stephen.....		1,000.00	620.33	379.67
Woman's College Class of 1941 Fund.....	400.00			400.00
Woman's College Class of 1942 Fund.....	518.00	182.00		700.00
Woman's College Student Project Fund.....	567.56			567.56
Wyeth's Paritol Studies Fund.....	2.59		2.59	
York Chapel Fund.....	580.69		124.00	456.69
Totals.....	\$2,475,366.29	\$2,544,764.77	\$2,367,437.68	\$2,652,693.38

SCHEDULE F—GIFTS, GRANTS AND CONTRACTS FOR RESEARCH

INDIVIDUALS:

Joseph Baylin		\$ 1,500.00
Cardiovascular Research Fund:		
Anonymous	\$ 3,815.00	
J. Ross McNeal	500.00	4,315.00
Department of Surgery Fund:		
Ralph Arnold	2,000.00	
Surgical P. D. C.	128,460.81	
Two other contributors	450.00	130,910.81
EEG Laboratory Account Fund:		
Private Diagnostic Clinic	14,822.51	
One other contributor	25.00	14,847.51
Engineering College Research Fund:		
Norman A. Cocke	500.00	
Duke Power Co.	1,055.00	
Russell Ranson	1,000.00	
Ranson-Wallace Co.	1,000.00	
7 other contributors	715.00	4,270.00
Forest Soils Drainage Research Fund:		
International Paper Co.	2,016.00	
3 other contributors	450.00	2,466.00
Anna H. Hanes Research Fund:		
Medical P. D. C.	139,066.48	
1 other contributor	24.00	139,090.48
F. M. Hanes Bequest to Department of Medicine		22,751.64
F. M. Hanes Bequest to Duke Medical School		22,751.64
Hematology Research Fund:		
Anonymous	1,531.50	
Armour & Co.	1,368.02	
Earl J. Jones	1,000.00	3,899.52
William McDougall Research Fund:		
Mrs. L. K. Anspacher	2,368.95	
Belk Foundation	2,000.00	
W. Perry Bentley	1,000.00	
Matthew F. McMullin	500.00	
Charles E. Ozanne	2,000.00	
Parapsychology Foundation	10,350.00	
Mrs. P. D. Perry	2,000.00	
Joseph G. Prosser	800.00	
8 other contributors	1,002.47	22,021.42
Neurosurgical Research Fund		100.00
Obstetrics & Gynecology Bacteriological Fund:		
Department of Obstetrics & Gynecology		1,500.00
Parapsychology Research Fund:		
Charles E. Ozanne		1,000.00
Research in Humanities		400.25
Special Endocrine Fund:		
Department of Obstetrics and Gynecology		1,500.00

Schedule F (Continued)—Gifts, Grants and Contracts for Research

Surgery Clinical Laboratory Research Fund:		
Ciba Pharmaceutical Products, Inc.	1,000.00	
Warner-Chilecott, Inc.	1,000.00	
Warner-Hudnut, Inc.	3,000.00	5,000.00
Thoracic Research Fund:		
32 Contributors		1,027.00
Urological Research Fund:		
4 Contributors		245.00
		<u>\$ 379,596.27</u>

INDUSTRY

Anonymous	45,000.00	
Abbott Laboratories	500.00	
Ayerst Laboratories	5,100.00	
Beneficial Form Corp.	500.00	
The Borden Co.	5,000.00	
Ciba Pharmaceutical Products, Inc.	5,000.00	
E. I. DuPont de Nemours & Co.	1,500.00	
General Foods Corporation	3,000.00	
Hoffman LaRoche, Inc.	2,430.00	
Eli Lilly and Company	1,800.00	
McGraw Hill Book Co.	100.00	
Research Corporation	5,375.00	
G. D. Searle & Company	4,000.00	
Smith, Kline & French Laboratories	9,000.00	
Travenol Laboratories, Inc.	10,000.00	
Winthrop Stearns, Inc.	1,000.00	99,305.00

FOUNDATIONS:

American Cancer Society	36,006.00	
American Heart Association	9,450.00	
American Medical Association	500.00	
Carnegie Corporation	50,000.00	
C. B. S. Foundation	700.00	
Durham-Orange Heart Association	500.00	
Henderson County Cancer Society	1,000.00	
Walter Kempner Foundation	10,000.00	
Life Insurance Medical Research Fund	24,700.00	
North Carolina Heart Association	500.00	
National Tuberculosis Association	7,689.69	
Rockefeller Foundation	15,322.44	
Damon Runyon Memorial Fund	49,500.00	205,868.13

GOVERNMENT:

Atomic Energy Commission—Contracts	140,876.74	
National Science Foundation	64,805.07	
United States Air Force—Contracts	153,142.60	
United States Army—Contracts	249,135.23	
United States Department of Agriculture—Contracts	5,000.00	
United States Navy—Contracts	76,954.87	
United States Public Health Service—Grants	330,207.76	1,020,122.27
		<u>\$1,704,891.67</u>

SCHEDULE G—GRANTS AND CONTRACTS FOR TRAINING PROGRAMS

Institute of International Education	\$ 14,671.64
United States Office of Vocational Rehabilitation	15,461.00
United States Public Health Service	104,118.33
	<hr/>
	\$134,250.97
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SCHEDULE H—GIFTS FOR THE LIBRARIES

Friends of Duke University Library	
21 Contributors	\$ 666.86
J. Welch Harriiss	600.00
Special Gifts for Library Books	
4 Contributors	35.00
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	\$ 1,301.86
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SCHEDULE I—GIFTS FOR CURRENT EXPENSES

College Sustaining Fund	\$ 14,518.01
Gifts from Individuals	2,500.00
Gifts from Industries	14,850.00
Methodist Conference Donations	12,100.00
National Fund for Medical Education	22,900.00
	<hr/>
	\$ 66,868.01
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SCHEDULE J—GIFTS FOR FELLOWSHIPS AND SCHOLARSHIPS

Allied Chemical and Dye Corporation	\$ 2,150.00	
American Cyanamid Company		4,819.50
Divinity School Miscellaneous Scholarships:		
Fred W. Bradshaw	\$ 1,200.00	
College Sustaining Fund	7,200.00	
Carolina Paper Board Corporation	1,800.00	
Duke University Y. M. C. A.	500.00	
Methodist Church (Board of Education)	600.00	
Methodist Church (Board of Missions)	500.00	
South Carolina Conference	2,500.00	
23 other Contributors	460.00	14,760.00
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Divinity School Foreign Students Scholarship Fund:		
First Methodist Church, Morehead City	800.00	
N. M. Harrison Foundation	75.00	
Methodist Church (Council on World Service & Finance)	75.00	
North Carolina Conference	545.80	
Western North Carolina Conference	516.00	2,011.80
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Angier B. Duke Memorial, Inc.		64,475.00
Duke University Sundry Scholarships:		
American Viscose Corporation	1,000.00	
Armed Forces Relief & Benefit Association	500.00	

Schedule J (Continued)—Gifts for Fellowships and Scholarships

Francis Quinset Coddie Scholarship	650.00	
A. Biddle Duke	1,000.00	
Anthony D. Duke	1,000.00	
R. E. Ebert	1,500.00	
Elks National Foundation	1,500.00	
Enka Foundation	600.00	
Firestone Tire & Rubber Co.	1,930.90	
Ford Motor Company Fund	943.00	
Hickory Community Fund	800.00	
Leo. T. Kessam Foundation	900.00	
Charles F. Kettering Foundation	1,900.00	
Leggett Memorial Fund	1,000.00	
Methodist Church (Board of Education)	3,200.00	
National Association of College Women	1,000.00	
National Association of Secondary Schools	500.00	
National Foundation for Infantile Paralysis	841.00	
Emma Kapp Ogburn Memorial	1,200.00	
Peat, Marwick, Mitchell & Co.	500.00	
F. Granger Pierce	1,800.00	
Saxapahaw Community Chest	500.00	
James Starr Memorial Fund	500.00	
Mrs. T. G. Taylor	500.00	
Union Carbide & Carbon Corp.	1,500.00	
United States Public Health Service	940.00	
Westinghouse Educational Foundation	1,000.00	
80 other Contributors	13,783.50	42,988.40
		<hr/>
E. I. DuPont de Nemours & Co.		3,770.00
General University Scholarships:		
Bowman Farm Dairy	1,500.00	
Central Distributing Co.	500.00	
Don S. Elias	500.00	
Thomas Austin Finch Foundation	2,500.00	
Dr. R. L. Fisher	1,200.00	
P. Frank Hanes	500.00	
A. F. Hooker	600.00	
B. E. Jordan	500.00	
J. R. Smith	500.00	
Nello L. Teer Co.	4,780.00	
George R. Wallace	500.00	
Earle W. Webb	1,000.00	
96 other Contributors	8,238.00	22,818.00
		<hr/>
James A. Gray Foundation	5,676.87	
Japan Society, Inc.	2,000.00	
Dr. Walter Kempner	4,800.00	
Monsanto Chemical Corp.	3,070.00	
Paraplegia Veterans Association	5,000.00	
Senhauser Memorial	25.00	
Shell Oil Company	2,470.00	
Tobacco Industry Research Committee	500.00	
Undergraduate Scholarship Fund	18.00	
Union Bag and Paper Corp.	1,480.81	
Union Carbide & Carbon Corp.	2,600.00	
West Campus Chest Scholarship Fund	450.00	
Woman's Panhellenic Scholarship Fund	100.00	
		<hr/>
		\$185,983.38
		<hr/>

SCHEDULE K—GIFTS FOR MISCELLANEOUS PURPOSES

Accepted Supply Pastor's School Fund:		
N. C. Conference Board of Education	\$ 1,500.00	
Southeastern Jurisdictional Conference	5,268.11	\$ 6,768.11
<hr/>		
American Cyanamid Company		1,250.00
Awards and Prizes		25.00
Carnegie Foundation for the Advancement of Teaching		67,766.67
Checklist for Scientific Periodicals:		
North Carolina State College	450.00	
University of North Carolina	600.00	
Woman's College of U. N. C.	150.00	1,200.00
<hr/>		
Christian Convocation Fund:		
N. C. Conference Pastors School	1,125.00	
3 other Contributors	852.50	1,977.50
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Divinity School Fund:		
2 Contributors		313.50
Doris Duke Foundation		27,000.00
Ford Foundation		5,000.00
Forestry Bulletin Fund		400.00
General Education Board		85,000.00
Gynecology and Obstetrics Special Fund:		
Department of Obstetrics & Gynecology	14,760.40	
Dr. Walter Kempner	4,800.00	19,560.40
<hr/>		
Hospital Administrative Fund		16,812.14
Robert E. Lee Prize		50.00
Lawyers Title Foundation		100.00
Loblolly Pine Monograph Fund:		
Macon Kraft Co.	500.00	
Rome Kraft Co.	500.00	
12 other Contributors	2,600.00	3,600.00
<hr/>		
Lutheran Activities Fund		220.00
Methodist Activities Fund		4,000.00
Methodist Church (Board of Education)		55,000.00
Ophthalmology Department Fund		11,345.00
Out-Patient Experiment Fund		8,500.00
Oxygen Therapy Fund		2,000.00
Pediatric Department Fund		15,260.64
Plastic Surgery Fund		762.00
Psychiatry Department Operating Fund		29,158.46
Richardson Foundation		5,500.00
Lily Webb Smith Estate		3,305.44
Southern Fellowship Fund		82,450.00
Westminster Fellowship Fund		2,550.00
Wietman Laboratory Account		390.73
Woman's College Student Aid Fund		575.00
		<hr/>
		\$457,840.59
		<hr/>

SCHEDULE L—GIFTS FOR PLANT AND EQUIPMENT

Doris Duke Foundation		\$ 18,000.00
Elizabeth P. Hanes		2,000.00
Medical School and Hospital Building Fund:		
Medical P. D. C.	\$ 63,480.22	
Surgical P. D. C.	79,261.66	
	<hr/>	
	142,741.88	
Less: Transfer to General Fund	25,000.00	
	<hr/>	
	117,741.88	
	<hr/>	
F. V. Altvater	1,500.00	119,241.88
Robert E. Seibels, Jr., Memorial Laboratory Fund		25.00
		<hr/>
		\$139,266.88
		<hr/> <hr/>

DUKE UNIVERSITY INVESTMENTS

Fiscal year ended June 30, 1955

*Bonds
Par Value**U. S. Treasury*

24M	1 1/8% Ctf. 8/15/55
2,984M	1 1/4% Ctf. 12/15/55
321M	1 5/8% Notes 3/15/56
831M	1 5/8% Notes 5/15/57
1,424M	1 7/8% Notes 2/15/59
1,425M	2 1/2% Bonds 8/15/63
504M	2 1/2% Series G Bonds Various Maturities

Other

128M	Alabama Power Co. 4 1/8% Mtge. 5/1/83
50M	Alabama Power Co. 3 1/8% Mtge. 3/1/84
75M	Alabama Power Co. 3 1/2% Mtge. 6/1/85
200M	Allied Chemical & Dye Corp. 3 1/2% Deb. 4/1/78
50M	American Telephone & Telegraph Co. 2 3/4% Deb. 2/1/71
70M	American Telephone & Telegraph Co. 3 1/4% Deb. 9/15/84
50M	Appalachian Electric Power Co. 3 1/2% Mtge. 12/1/83
70M	Atlantic Refining Co. 3 1/4% Deb. 1/15/79
125M	Carolina Power & Light Co. 3 1/2% Mtge. 10/1/82
50M	Central Illinois Public Service Co. 3 3/8% Mtge. 9/1/77
100M	C. I. T. Financial Corp. 3 1/8% Notes 6/15/58
2,500M	Commercial Investment Trust Disc. Notes 10/31/55-1/13/56
75M	Consolidated Edison Co. of N. Y. 3 1/2% Mtge. 2/1/83
75M	Consolidated Edison Co. of N. Y. 3 3/8% Mtge. 1/1/84
100M	Consumers Power Co. 3 1/4% Mtge. 2/1/90
25M	Detroit Edison Co. 3 1/4% Deb. 2/1/69
50M	Detroit Edison Co. 3 1/4% Mtge. 5/15/80
2,000M	Duke Power Co. 3% Notes 9/28/55
200M	Duke Power Co. 3% Mtge. 1/1/75
50M	Duquesne Light Co. 3 5/8% Mtge. 9/1/83
500M	General Motors Acceptance Corp. Disc. Notes 10/28/55
225M	General Motors Acceptance Corp. 4% Deb. 7/1/58
50M	General Motors Acceptance Corp. 3 7/8% Deb. 7/15/61
150M	General Motors Acceptance Corp. 4 3/4% Deb. 1/15/68
100M	General Motors Acceptance Corp. 3% Deb. 7/15/69
125M	General Motors Acceptance Corp. 3 1/2% Deb. 3/15/72
50M	General Motors Acceptance Corp. of Canada, Ltd. 4% Deb. 6/1/64
50M	General Motors Acceptance Corp. of Canada, Ltd. 4 3/4% Deb. 12/15/69
150M	General Motors Corp. 3 1/4% Deb. 1/1/79
100M	Georgia Power Co. 3 3/8% Mtge. 7/1/82
73M	Georgia Power Co. 3 3/4% Mtge. 4/1/83
100M	Georgia Power Co. 3 1/8% Mtge. 4/1/84
75M	Georgia Power Co. 3 3/8% Mtge. 6/1/85
50M	Gulf States Utilities Co. 3 1/8% Mtge. 12/1/82
100M	Gulf States Utilities Co. 3 3/8% Mtge. 12/1/83
100M	Illinois Power Co. 3 1/2% Mtge. 11/1/83
50M	Imperial Oil Ltd. 3 5/8% Deb. 2/1/75
100M	Kansas City Power & Light Co. 3 1/4% Mtge. 1/15/83
75M	Long Island Lighting Co. 3 3/8% Mtge. 10/1/82
125M	Long Island Lighting Co. 3 1/4% Mtge. 12/1/84
100M	P. Lorillard Co. 3 3/4% Deb. 4/1/78
100M	May Department Stores Co. 3 1/4% Deb. 2/1/78
50M	New England Power Co. 3 1/4% Mtge. 1/1/85
100M	New England Telephone & Telegraph Co. 3 1/4% Deb. 12/15/77
50M	New England Telephone & Telegraph Co. 3 1/8% Deb. 12/15/88
75M	Niagara Mohawk Power Corp. 3 1/2% Mtge. 2/1/83

Duke University Investments (Continued)

*Bonds**Par Value*

65M	Ohio Edison Co. 3 1/4% Mtge. 1/1/84
125M	Ohio Power Co. 3 3/8% Mtge. 1/1/83
60M	Province of Ontario, Canada 3 1/4% Deb. 9/1/72
200M	Province of Ontario, Canada 3 1/4% Deb. 2/1/75
75M	Province of Ontario, Canada 3 1/8% Deb. 3/15/80
120M	Pacific Gas & Electric Co. 3 1/8% Mtge. 6/1/84
100M	Pacific Telephone & Telegraph Co. 3 1/4% Deb. 11/15/79
150M	Pacific Telephone & Telegraph Co. 3 1/8% Deb. 11/15/89
115M	Philadelphia Electric Co. 3 1/8% Mtge. 4/1/85
100M	Pillsbury Mills Inc. 3 1/8% Deb. 12/1/72
55M	Public Service Co. of Indiana 3 3/8% Mtge. 1/1/84
50M	Public Service Electric & Gas Co. 3 1/4% Mtge. 5/1/84
5M	Scarsdale Golf Club Inc. 4% Bonds 12/1/74
50M	Southern California Edison Co. 3 5/8% Mtge. 8/15/78
50M	Sterling Drug Inc. 3 1/4% Deb. 4/1/80
50M	Utah Power & Light Co. 3 1/2% Mtge. 10/1/82

*Stocks**No. of Shares*

3,000	Allied Chemical & Dye Corp.
13,697	Aluminium, Limited
700	American Cyanamid Co. 3 3/4% Pfd.
1,638	American Cyanamid Co.
2,000	American Gas & Electric Co.
2,000	American Telephone & Telegraph Co.
4,500	American Tobacco Co.
1,000	American Tobacco Co. 6% Pfd.
1,000	American Viscose Corp.
400	Atlantic Coastline Railroad Co.
7,700	Baltimore Gas & Electric Co.
305	Burlington Industries Inc.
1,505	Cannon Mills Co.
2,605	Cannon Mills Co. B
1,500	Carolina Power & Light Co.
3,500	Chemical Corn Exchange Bank
8,000	C.I.T. Financial Corp.
10,300	Cincinnati Gas & Electric Co.
7,200	Cleveland Electric Illuminating Co.
2,000	Commercial Credit Corp.
2,000	Commonwealth Edison Co.
2,000	Cone Mills Corp.
3,000	Consolidated Edison Co. of N. Y.
4,000	Consumers Power Co.
1,500	Continental Illinois National Bank & Trust Co
4,000	Continental Oil Co.
4,500	Corn Products Refining Co.
4,000	Dayton Power & Light Co.
7,000	Detroit Edison Co.
500	Discount Corp. of N. Y.
58,162	Duke Power Co.
3,700	E. I. duPont de Nemours & Co.
5,000	Duquesne Light Co.
10,500	Eastman Kodak Co.
5,000	The Fidelity Bank, Durham, N. C.
2,600	First National Bank of Boston
2,500	First National City Bank of N. Y.
6,400	First National Stores, Inc.

Duke University Investments (Continued)

<i>Stocks</i>	
<i>No. of Shares</i>	
14,100	General Electric Co.
2,600	General Foods Corp.
8,760	General Motors Corp.
3,336	General Motors Corp. \$5.00 Pfd.
385	General Telephone Corp. \$4.25 Pfd.
10,200	Guaranty Trust Co. of N. Y.
5,400	Gulf Oil Corp.
1,885	P. H. Hanes Knitting Co.
4,000	Indianapolis Power & Light Co.
9,000	Ingersoll-Rand Co.
4,600	Inland Steel Co.
1,347	International Business Machines Corp.
4,000	International Nickel Co. of Canada, Ltd.
5,555	J. B. Ivey & Co.
3,116	J. A. Jones Construction Co. 5% Pfd.
5,500	Kansas City Power & Light Co.
3,500	Kennecott Copper Corp.
6,800	Kroger Co.
1,000	Libbey-Owens-Ford Glass Co.
15,135	Liggett & Myers Tobacco Co.
4,000	Link-Belt Co.
30	Long Meadow Farms Cooperative, Inc. 5% Pfd.
200	P. Lorillard Co.
3,300	Louisiana Land & Exploration Co.
1,500	Louisville Gas & Electric Co.
370	G. C. Murphy Co.
1,000	National Dairy Products Corp.
3,000	National Steel Corp.
2,000	New York State Electric & Gas Corp.
2,000	Niagara Mohawk Power Corp.
4,000	Ohio Edison Co.
1,000	Owens-Illinois Glass Co.
3,000	Pacific Gas & Electric Co.
4,000	Pacific Lighting Corp.
3	Pamlico Power & Light Co. 5% Pfd.
3,500	Penick & Ford Ltd., Inc.
3,100	Phelps Dodge Corp.
7,000	Philadelphia Electric Co.
2,000	Phillips Petroleum Co.
2,600	Pittsburgh Plate Glass Co.
1,800	Procter & Gamble Co.
4,000	Public Service Co. of Indiana
40,900	R. J. Reynolds Tobacco Co. B
4,600	Sears, Roebuck & Co.
3,264	Shell Oil Co.
1,100	Sherwin-Williams Co.
2,000	Sinclair Oil Corp.
12,000	Socony Mobil Oil Co.
340	Spindale Mills Inc.
4,516	Standard Oil Co. of California
7,000	Standard Oil Co. (Ind.)
6,875	Standard Oil Co. (N. J.)
5,200	J. P. Stevens & Co., Inc.
8,000	The Texas Co.
5,000	Union Carbide & Carbon Corp.
500	United Gas Corp.
2,000	United Shoe Machinery Corp.
10,000	Wachovia Bank & Trust Co.
6,800	Westinghouse Electric Corp.

GIFTS AND BEQUESTS

Duke University derives its principal support from endowment funds and from miscellaneous gifts and grants. Permanently invested capital funds enable the University to offer to students academic and professional training at a fraction of its actual cost. The effectiveness of the University is determined to a large extent by its financial resources.

Gifts and bequests devoted to the improvement of the work of the University will be received and administered by the Trustees in accordance with the desires of the donor.

GIFTS. Any kind of property, real or personal, may be the subject of a gift and only such form as is required to pass title is necessary. If the gift consists of real property, the title will be passed by deed; if it consists of cash or unregistered bonds, the gift is consummated by delivery of the property; or if stocks, by delivery of properly endorsed stock certificates. Unless restricted, the use of gifts is at the discretion of the Board of Trustees. Usually the proceeds, conservatively invested, are added to the permanent endowment of the University. The donor may, however, restrict the use of any gift and designate definitely the object for which it shall be used. In such cases, the transfer of property should be accompanied by a letter or other document describing in detail the objects for which the proceeds of the gift are to be used and when accepted by the University the terms or conditions set out therein become binding upon it.

BEQUESTS. Bequests may be made to the University by an appropriate clause inserted in a will or by codicil to a will already drawn. The forms shown on the following page will serve as appropriate clauses for wills or codicils.

FORMS FOR BEQUESTS

General

I give, devise and bequeath to Duke University, a corporation existing under the laws of the State of North Carolina and located in the City and County of Durham, State of North Carolina, and its successors forever, the sum of.....

.....Dollars

(or otherwise describe the gift) for the general purposes and uses of the University at the discretion of the Board of Trustees.

Specific

I give, devise and bequeath to Duke University, a corporation existing under the laws of the State of North Carolina and located in the City and County of Durham, State of North Carolina, and its successors forever, the sum of.....

.....Dollars

(or otherwise describe the gift) and direct that the income therefrom shall be used for the following purposes, viz. (here describe in detail the use desired).

Codicil

Having hereinbefore made my last Will and Testament dated.....

....., and being of sound mind, I hereby make, publish, and declare the following codicil thereto; (here insert clause in same form as if it had been included in body of Will). Except as hereinbefore changed, I hereby ratify, confirm and republish my said last Will and Testament.

(It is strongly recommended that a competent lawyer be employed to prepare the will and to supervise its execution in order to comply with all the requirements of the law of the state in which the maker of the will resides. It is also wise to give the University considerable latitude in the use of any fund so that a change of circumstances may not impair the usefulness of the gift. The Treasurer of the University will be glad upon request to review the phrasing of any proposed form of bequest.)

The Study of Law at Duke University

BULLETIN OF DUKE UNIVERSITY

"I have selected Duke University as one of the principal objects of this trust because I recognize that education, when conducted along sane and practical, as opposed to dogmatic and theoretical, lines, is, next to religion, the greatest civilizing influence. I request that this institution secure for its officers, trustees and faculty men of such outstanding character, ability and vision as will insure its attaining and maintaining a place of real leadership in the educational world, and that great care and discrimination be exercised in admitting as students only those whose previous record shows a character, determination and application evincing a wholesome and real ambition for life. **And I advise that the courses at this institution be arranged, first, with special reference to the training of preachers, teachers, lawyers and physicians, because these are most in the public eye, and by precept and example can do most to uplift mankind, . . .**"

(From the Indenture of James B. Duke)

Bulletin of Duke University

Volume 27 June 1955 Number 8-B

PUBLISHED BY DUKE UNIVERSITY MONTHLY EXCEPT IN JULY, AUGUST, SEPTEMBER, AND DECEMBER. ENTERED AS SECOND-CLASS MATTER MARCH 25, 1929, AT THE POST OFFICE OF DURHAM, NORTH CAROLINA, UNDER THE ACT OF AUGUST 24, 1912.



THE LAW BUILDING

The Study of Law
at Duke University



Making Lawyers

Law Schools are meant to train men to be lawyers. There are law schools and law schools, and there are lawyers and lawyers. With an ideal before it of what a lawyer should be, the Duke Law School endeavors to see how near to that ideal it can develop its students in the time that it has them under its tutelage.

No law school can turn out a finished practitioner, for professional experience contributes something that no school can give, but the best type of law school training can very definitely put a young man years ahead in his professional career. The extent to which the school gives to its students such advantage is the test of its efficiency.

The training should be as individual as possible, for there is nothing more individual than the professional man's practice. Each student as he begins the study of law, if he has given the matter any thought, is most interested in what his training will do for him personally. The more this training savors of mass production the less likely that he will develop the greatest capacity and produce the ideal of what the lawyer should be.

There is only one way to bring about the best result and that is to maintain an adequate faculty of high quality and facilities in proportion to the number of students. Smallness in size only of a school is no guarantee of the highest quality of instruction. There must be also a process of selection by which students are admitted and a limit as to the number who are accepted in relation to instruction and facilities if individualized instruction is to be given on the proper basis. The curriculum must be a broad and rich one in light of current demands of lawyers.

To achieve this objective Duke maintains a full-time law faculty of not less than twelve, which is supplemented by part-time practicing lawyers for certain phases of practical instruction, and by the Legal Aid Clinic staff of five lawyers, and restricts its student body to not more than two hundred students. Its Law Library and other facilities are maintained on the same basis of adequacy in relation to the above stated objective. Such a program of legal education is costly to maintain and requires an annual outlay at Duke of the income on approximately five million dollars. The student, however, through tuition and fees bears only a fraction of the cost of his legal education at Duke.

Program of Instruction

A perfect curriculum is impossible to attain, but ceaseless study and adjustment of program are necessary in view of the dynamic developments in law during the twentieth century. The program of instruction at Duke Law School has recently been thoroughly revised as a result of studies made by the faculty. The rise of new fields of law has made it imperative that students be given an opportunity to specialize in particular fields without neglecting the older, more fundamental courses. There has been a need, also, of giving more training in legal writing, drafting of legal instruments and legal planning.

Consequently, the present curriculum has been designed to insure that students may prepare to specialize for practice without foregoing any part of the basic legal education required for general practice and desirable for all specialists. Courses have been combined; duplications in courses have been eliminated. This enables the student to cover most of the basic courses in the first and second years of law study, and also to secure special training in legal research and writing. New courses have been added, especially in the third year, in which teaching methods differ from the conventional. Examples of such new courses are advanced courses and seminars in Taxation, Labor Law, Tax and Estate Planning, and Corporate Planning. Students are required to take at least two of these or the other courses and seminars (normally limited to 15 students), in which legal writing and drafting and planning are emphasized.

This broader and richer curriculum has had a strong appeal not only to Duke law students but also to many graduates of other law schools who come here for graduate study in order



INDIVIDUAL CONFERENCES BETWEEN STUDENTS AND TEACHERS ARE ENCOURAGED AND CONTRIBUTE TO THE THOROUGHNESS OF LEGAL TRAINING AT DUKE.



A TYPICAL SEMINAR CLASS DISCUSSION. IN THIS SEMINAR PROFESSORS OF LAW AND ECONOMICS COLLABORATE

to qualify themselves for teaching or for practice in certain specialties which had not been available in law schools they attended.

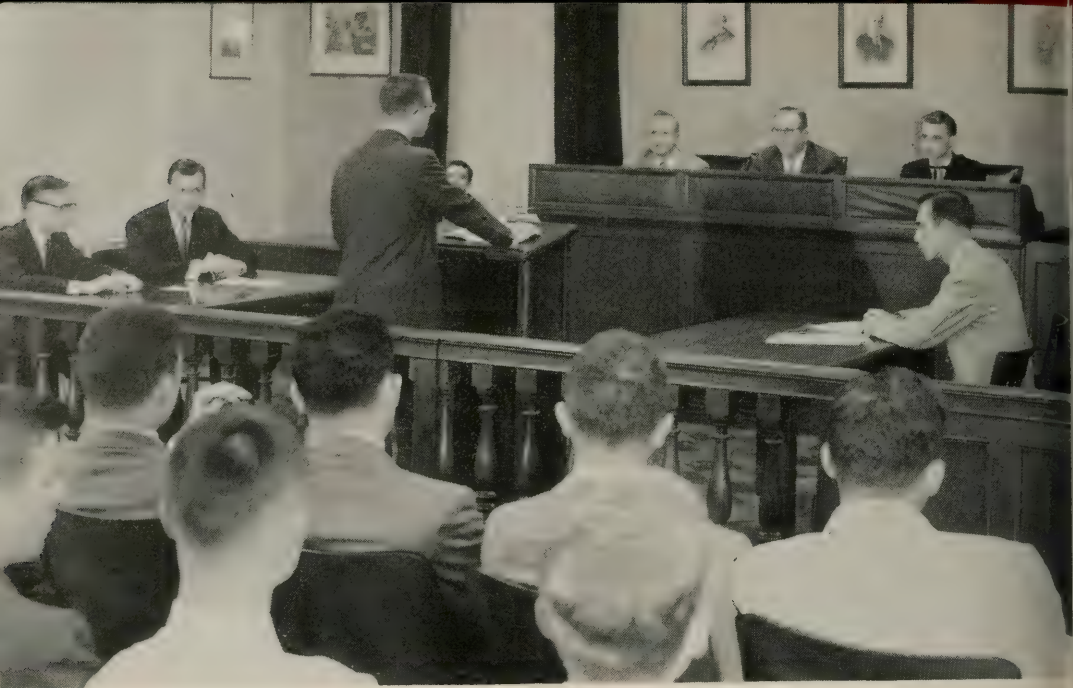
The Graduate Program _____

The graduate program of the Law School, leading to the degrees of Master of Laws and Doctor of Juridical Science, is framed with a view to the encouragement of legal scholarship. It provides training for the qualified student who aspires to a teaching career, or who wishes to become proficient in a special field of law, to do serious legal research, to prepare himself for a public law practice in or out of government, or to acquire a broader and deeper legal education than the undergraduate curriculum offers.

The LL.M. degree is based upon one year of resident study by graduates of standard law schools who demonstrate their capacity to do superior legal scholarship.

The S.J.D. degree is based upon at least one additional year of legal research, not necessarily in residence, by a person who has obtained the LL.M. degree with a scholastic record of distinction.





PRACTICAL TRAINING IS AIDED BY MOOT COURT TRIALS

The Legal Aid Clinic ---

The Duke Legal Aid Clinic, wholly operated by the School since 1931, represents a new departure in legal education. Like other legal aid clinics it handles the legal problems of indigent clients, but this is only one phase, and not the most important from an educational standpoint, of its program. The Clinic is not content simply to bring together a law student and a client. It has proceeded on the premise that there are basic methods characteristic of the better-class lawyer, that these fundamentals can be discovered and taught. The objective of the Clinic is to teach method in the orderly handling of cases and clients. The handling of real cases and clients by students comes as a climax to a long period of preparation in the Clinic for undertaking such tasks.

Every year, some 400 persons bring real problems to the Clinic. Some few are litigated, but most are disposed of by advice or conciliation. Since 1931 the Clinic has handled over 10,000 matters, civil and criminal. The students also write trial briefs for prac-

A LAW STUDENT INTERVIEWS A CLIENT OF THE LEGAL AID CLINIC AND WILL LATER ASSIST CLINIC STAFF MEMBERS IN ADVISING THE CLIENT.



ting lawyers in cases actually pending. No fees are charged for any service.

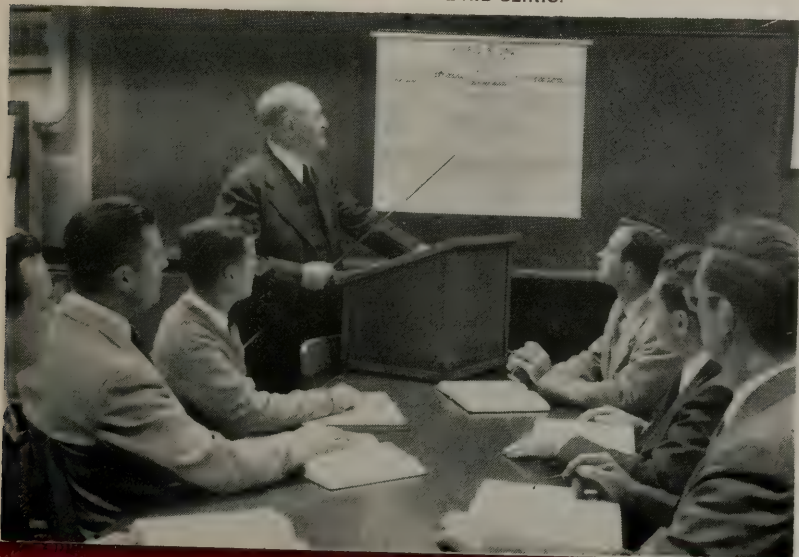
Supervision is provided by six members of the Bar. Three are practicing lawyers in Durham, and they supervise whatever litigation arises. The other three are available in the Law School daily for individual conferences with students.

The Clinic staff also supervises the trial of selected cases by students in the modern Court Room which is shown here.

The best proof of the educational value of the Clinic to the young lawyer is to be found in the voluntary letters that come to the Clinic each year from graduates who desire to record the great value the Clinic training has been to them in their beginning years of practice.

While it is recognized that law schools cannot produce finished lawyers, much practical training can be given in law school. Properly operated, a legal aid clinic when used as an integral part of the educational program and wholly controlled by the school, as at Duke, is an extremely valuable device for imparting practical skills and methods.

A CLINIC DISCUSSION OF STEPS IN HANDLING A TYPICAL LAW CASE IS CONDUCTED BY THE DIRECTOR OF THE LEGAL AID CLINIC.



LAW AND
CONTEMPORARY
PROBLEMS

COMMERCIAL
ARBITRATION
PART I

SCHOOL OF LAW • DUKE UNIVERSITY
SUMMER, 1952

Duke Bar Journal



Publications

Law and Contemporary Problems, a quarterly published by the Duke Law School, devotes each issue entirely to a symposium on a problem of current importance. It is now in its twentieth year of publication. In recognition of the interrelationship existing today between legal questions and business, social, political, and administrative matters, the articles in the symposia are written not only by lawyers and law teachers but also by social and political scientists, bankers, businessmen, and government officials, and emphasize the broader implications of modern legal questions. Each issue contains from 160 to over 200 pages consisting of from eight to 12 articles representing various viewpoints on the symposium topic. Symposia range widely over various fields such as cooperatives, religion and the state, delivered pricing, international human rights, regulation of insurance, divorce, commercial arbitration, loan sharks, war claims, institutional investments, the nationalization of British industries, and the uniform commercial code.

Law and Contemporary Problems has a subscription list of substantial proportions which includes most of the leading general libraries and law libraries in this country and abroad, and it often has large sales of individual issues—one recent issue sold over 10,000 copies. It is the only publication of its kind among the many current legal periodicals, and many law firms, large and small, have found it a useful tool in their practice.

In 1948, following many years of discussion and planning, the Association of American Law Schools finally initiated the publication of a quarterly, the *Journal of Legal Education*. The faculty of the Duke Law School agreed to edit this new publication for the

Association. This periodical, now in its seventh year of publication, is distributed free of charge to every law school library and law teacher in the United States and to many libraries and teachers in foreign countries, and is also widely read by practicing lawyers and judges. It serves as a focal point for contemporary discussions of legal education and its pages are filled with descriptions of experiments in teaching, reviews of new casebooks and textbooks, debates over differing teaching methods and philosophies, and analyses of various teaching problems.

Duke Bar Journal _____

It has been the constant aim of the Law School to develop the capacity in its students to do high quality legal writing which is an indispensable requisite for a good lawyer. Not only is this objective emphasized in the program of instruction itself, but the students are also provided with their own legal periodical—*Duke Bar Journal*. It is published twice each year and contains eight to 10 articles written solely by students on important legal problems. The Editorial Board is composed of the upper 15% scholastically of the second and third year classes, which Board elects its Editor-in-Chief each year. All students are urged to contribute articles to the *Bar Journal*.

The *Bar Journal* has a substantial circulation among Duke law students, lawyers and law libraries over the country. It affords an unusually fine medium for law students to develop a high degree of skill in effective legal writing.

EDITORIAL STAFF OF THE DUKE BAR JOURNAL INSPECTS A NEW ISSUE



The Law



McCLAIN



BOLICH



BRADWAY



BRYSON

JOSEPH A. McCLAIN, JR., A.B., LL.B., LL.D., Mercer University; J.S.D., Yale University; LL.D., Tulane University; Practice, Columbus, Georgia, 1925-1926; Dean and Professor of Law, Mercer University, 1927-1933; Professor of Law, University of Georgia, 1933-1934; Dean and Professor of Law, University of Louisville, 1934-1936; Dean and Professor of Law, Washington University (St. Louis), 1936-1942; Chairman of Section, Legal Education and Admissions to the Bar of the American Bar Association, 1945-1947; Vice-President and General Counsel, Terminal R. R. Association of St. Louis, 1942-1945; General Counsel, Wabash R. R. Company, 1945-1950; Dean, since 1950.

W. BRYAN BOLICH, A.B., Duke University; B.A. (Juris.), B.C.L., M.A., Oxford University; general practice, 1924-1927; Legal Attaché, American Embassy, Rome, 1950; Faculty since 1927.

JOHN S. BRADWAY, A.B., A.M., Haverford College; LL.B., University of Pennsylvania; general practice, 1914-1929; chief counsel, Philadelphia Legal Aid Bureau, 1920-1922; Secretary, National Association of Legal Aid Organizations, 1923-1940, President, 1940-1942; Professor of Law and Director of the Legal Aid Clinic, University of Southern California, 1929-1931; Faculty since 1931.

EDWIN C. BRYSON, University of North Carolina, 1922-1925; Duke University, 1932-1933; LL.B., University of Oregon; general practice, 1927-1930; Duke University Counsel since 1945; Faculty since 1931.

ROBERT KRAMER, A.B., LL.B., Harvard University; Counsel, National Labor Relations Board, 1938-1940; Counsel Anti-Trust Division, Department of Justice, 1941-1942; military service, 1940-1941, 1942-1946, Lieutenant Colonel, Ordnance Department, Army of the United States, Legal Division, Office Chief of Ordnance, general counsel, Research and Development Service, Ordnance Department; general practice, 1946-1947; Faculty since 1947.

ELVIN R. LATTY, B.S., Bowdoin College; J.D., University of Michigan; J.Sc.D., Columbia University; general practice, 1930-1933; Associate Professor of Law, University of Kansas, 1934-1935; Professor of Law, University of Missouri, 1935-1937; Special Assistant to the American Ambassador, Caracas, 1942-1943; Acting Assistant Chief, Foreign Funds Control Division, Department of State, 1943; Faculty since 1937.

An outstanding and a study body of marks of a fine already been called faculty to student placed on individual Duke Law School chance is the fact that usually fortunate outstanding quality brief biographical indicate the unusual the present faculty.

It is especially large number of substantial experience practice of law. that the average Duke is over 13 years faculty has served continuity of serving teaching effective standards and objectives.



KRAMER



LATTY

Faculty

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the School.



LIVENGOOD



LOWNDES

CHARLES H. LIVENGOOD, JR., A.B.,
Duke University; LL.B., Harvard Uni-
versity; general practice, 1934-1940; Regional
Attorney for the Seventh Region, Wage and
Hour Division, U. S. Department of Labor,
1940-1941; Chief of the Wage-Hour Section,
Office of the Solicitor of Labor, 1941-1942;
general practice, 1945-1948; Faculty since
1948.

CHARLES L. B. LOWNDES, A.B., George-
town University; LL.B., S.J.D., Harvard
University; general practice, 1926-1927;
Assistant Professor of Law, Georgetown Uni-
versity, 1927-1928; Professor of Law, George-
town University, 1928-1930, 1931-1934;
Faculty since 1934.

DOUGLAS BLOUNT MAGGS, A.B., J.D.,
University of California; S.J.D., Harvard
University; general practice, 1924-1925;
Assistant Professor of Law, University of
California, 1926-1927; Professor of Law,
University of Southern California, 1927-1930;
Visiting Professor of Law, Columbia Uni-
versity, 1928-1929; Yale University, second
semester, 1935-1936; Special Assistant to the
Attorney General of the United States, 1938-
1939, 1942-1943; Chief of Wage-Hour Unit,
Department of Justice, 1939; Chief Consult-
ant to the General Counsel Board of Econ-
omic Warfare, 1942; Chief Legal Consultant,
Office for Emergency Management, 1942-
1943; Solicitor, United States Department of
Labor, 1943-1945; Faculty since 1930.

JOEL FRANCIS PASCHAL, A.B., LL.B.,
M.A., Wake Forest College; Ph.D., Prince-
ton University; Instructor in Law, Wake
Forest College, 1939-1940; U.S.N.R., 1942-
1946; Instructor, Princeton University, 1946-
1947; Research Director, North Carolina
Commission for the Improvement of the
Administration of Justice, 1947-1949; general
practice, 1949-1954; Visiting Professor of
Law, Duke University, 1952-1953; Associate
Professor of Law, Duke University, since
1954.

MELVIN G. SHIMM, A.B., Columbia Uni-
versity; LL.B., Yale University; 2nd Lt.,
FA (AUS), 1943-1946; general practice,
1950-1951; Counsel, Wage Stabilization
Board, 1951-1952; Bigelow Fellow, Univer-
sity of Chicago Law School, 1952-1953;
Assistant Professor of Law, Duke Univer-
sity, since 1953.

DALE F. STANSBURY, B.S., Valparaiso
University; LL.B., Indiana University;
J.S.D., Yale University; Deputy Attorney
General of Indiana, 1918-1924, 1928; private
practice, 1925-1927; Professor of Law, Mer-
cer University, 1929-1935; Dean and Pro-
fessor of Law, Wake Forest College, 1935-
1944; Professor of Law, University of
Tennessee, 1944-1946; Faculty since 1946.

ROBERT RENBERT WILSON, A.B., Austin
College; A.M., Princeton University; Ph.D.,
Harvard University; LL.D., Austin College;
Member, Advisory Committee, Harvard Re-
search in International Law, since 1935;
Member, Board of Editors, *American Journal
of International Law*, since 1937; United
States Department of State; Assistant, Treaty
Division, 1931-1932; Adviser on Commercial
Treaties, 1944-1946; Consultant on Commer-
cial Treaties, since 1946; Chairman, Depart-
ment of Political Science, Duke University;
Faculty since 1948.



MAGGS



PASCHAL



SHIMM



STANSBURY

Library —

The Law School Library now contains approximately 100,000 bound volumes, and ranks near the top in the nation with respect to certain important classes of law books, among them being American statutory materials, bar association reports, and law reviews

and journals. The Library currently receives every legal periodical of general interest published in the English language, as well as a representative selection of similar publications printed in other languages. Deserving of special mention are the collections of legal pamphlets, of federal and state documents, and the foreign collection composed of basic materials of a number of foreign countries whose legal systems are particularly significant in connection with work being conducted in the University.

But the acquisition of the books, in spite of its great importance, is only the first step involved in the creation and maintenance of a great law library. A full-time professional staff of five persons, supported by a corps of student assistants, is required to administer the Library.



STUDENT AT WORK IN LAW LIBRARY CARREL

THE NORTH READING ROOM OF THE LAW LIBRARY





LAW STUDENTS' LOUNGE IS USED FOR RELAXATION AND STUDY

*Where Duke Law Students Come From*_____

It has been the aim of the Duke Law School to maintain a relatively small, carefully selected student body. For the past 25 years, however, its student body has been characterized by the national distribution of the students.

Better than the written word, the map on the next page indicates the many states from which students come to the Law School. The map covers the students enrolled during a three-year period, 1952-55. Moreover in any one year, the number of states represented is large. Thus, for the year 1954-55, the 122 students came from 24 states. Equally interesting is the fact that these students came from 51 colleges and universities.

The significance of a student body drawn from so many states and universities lies in the national stamp it places on the school, in the stimulus it gives to deal with law nationally rather than to focus study on the law of a single jurisdiction; in the contacts which it affords the students with the differing points of view characteristic of different regions; and, ultimately, in the dissemination of the influence of the School through the service of its graduates in all parts of the country.

Although three years of college suffices for admission (if other standards are met, including a law aptitude test), a high proportion of the students have bachelor degrees.

No special pre-legal courses are required for entrance to the Law School. Although study in certain fields may provide the

Geographical Distribution of Law Students



During the three-year period from 1952 to 1955 27 states, the District of Columbia, Germany, Hawaii, and Puerto Rica were represented by members of the student body. Dots on the map of the United States (above) show towns and cities from which Duke law students came during this three-year period.

entering student with valuable background, law school experience everywhere indicates that success in law study is dependent on individual ability and quality of training rather than on specialized preliminary training.

Provision for the granting of scholarships has made possible attendance of students with good promise of professional success who might otherwise be barred solely for financial reasons. The presence of this group has added materially to the level of scholarship in the School, fostering a healthy spirit of competition among the students generally.



A MEETING OF THE BOARD OF GOVERNORS OF THE DUKE BAR ASSOCIATION

Duke Bar Association ---

For over 20 years the Duke Bar Association, composed of the entire law student body, has functioned successfully. The Association is patterned after the American Bar Association and progressive state bar associations. The Duke Bar Association represents one phase of a conscious effort to inculcate in the young lawyer a sense of professional consciousness and responsibility. Its objects are: (1) to foster legal science; (2) to maintain the honor and dignity of the legal profession among law students; (3) to cultivate professional ethics and social intercourse among its members; and (4) to promote the welfare of the Law School. It seeks to attain these objectives through five committees or "sections," namely, Section on Publications, Section on Placement and Alumni Affairs, Section on Law School Affairs, Section on Social Affairs, and the Section on Moot Courts.

The Association administers the honor system in the Law School. It has regular business and various social meetings during the year, and it sponsors the appearance of prominent speakers drawn from the outside. The Association maintains a large Lounge Room in the building for the comfort and convenience of its committees and members. The Lounge is available for the use of the students for study, reading and general social purposes.

Placing of Graduates

Leading law schools have long recognized the importance of the proper and effective placement of graduates. It is highly important, of course, to obtain the best possible legal training but it is also of great importance that the graduate find the appropriate location in which to utilize his talents and training in his life's work. Duke Law School has an established placement program in which the efforts of the School are coordinated with assistance from its law alumni who are to be found in every state of the union.

At the beginning of the senior year each student is requested to provide full information as to his background and the type of practice or work that he prefers, together with his preferences of location as to states and cities. This material is processed carefully by the Dean's office in cooperation with a student committee appointed by the Duke Bar Association. Every law alumnus and other sources of placement are then furnished the information concerning each senior and alumni are requested to assist in finding suitable locations. This placement program has been successful and promises to be increasingly effective each year of its operation. The School is most fortunate to have the enthusiastic support of this program by its alumni who are located in strategic positions the country over and who are thus able to bring many attractive openings to the attention of the graduating class.

THE DEAN AND A STUDENT COMMITTEE DISCUSS EMPLOYMENT OPPORTUNITIES





DESK AND MAIN LOBBY (LEFT) AND COFFEE SHOP OF THE MEN'S GRADUATE LIVING CENTER

Law Living Quarters

A new Graduate Living Center was completed in September, 1952. While some law students desire to live off campus, the great majority live in this graduate dormitory, which is located about a five minute walk from the Law School. Here they reside with students from the School of Medicine, the Graduate School of Arts and Sciences, the Divinity School and the School of Forestry.

This new Center, in addition to providing comfortable living quarters for 400 graduate and professional students, has its own dining rooms, lounges, recreational halls and study rooms. A cosmopolitan atmosphere, invigorating and beneficial to a young man preparing for a career in any field, undoubtedly exists. This environment should be particularly valuable to future lawyers, who must acquire a broad outlook and an analytical perspective of other professions if they are to succeed in their own.

In recent years educators in the leading universities of the nation have been devoting careful attention to the problem of housing students. Dominant in recent thought has been the belief that by bringing students together in groups sufficiently small to permit the development of close personal acquaintanceship within each group and yet large enough to assure a diversified, representative community, the disintegrating tendencies which the size of the American university has set in motion would be arrested. The new housing arrangement for the Duke law students constitutes a realization of this objective.

General Information

Entrance and Graduation Requirements

Three years of college work in an accredited college with a satisfactory record are required for admission, and, in addition, the following requirements must be met:

An application will not be passed upon until an official transcript of the entire record of the applicant's college work and two letters have been sent to the Dean of the School of Law. These letters should be recommendations covering the applicant's moral character and fitness for the study and practice of law. One such letter must be from a teacher of the college attended and the other from a responsible person in the applicant's community. An interview will be arranged when practicable.

All applicants are required to take the Law School Admission Test and the results of this Test must be submitted before final action is taken on an application. Full information about dates and times of taking this examination may be secured by writing to Educational Testing Service, 20 Nassau Street, Princeton, New Jersey.

Acceptance of an application is conditioned upon the fulfillment of requirements for entrance prior to the beginning of law study. If the applicant seeks admission with advanced standing from another law school, the above-mentioned materials should be furnished and in addition a transcript of his law school record sent, together with a statement from the dean of the law school, showing that applicant is eligible for readmission to the school



THE CHEMISTRY BUILDING IS
TYPICAL OF THE GOTHIC AR-
CHITECTURE OF WEST CAM-
PUS AND FLANKS THE LAW
BUILDING ON THE NORTH
SIDE



ON THE SOUTH SIDE OF AND CONNECTED TO THE LAW BUILDING IS THE GENERAL UNIVERSITY LIBRARY. DUKE LIBRARIES CONTAIN MORE THAN 1,000,000 VOLUMES WHICH ARE AVAILABLE TO LAW STUDENTS FOR STUDY, RESEARCH, AND PLEASURE.

from which transfer is proposed.

The course of law study leading to the LL.B. degree covers three years, each school year consisting of thirty-six weeks.

Expenses _____

It is impossible to predict the actual expenses for a particular student. The figures given below, however, represent an average annual figure, with the room and board subject to fluctuation due to one's taste.

Tuition	\$ 450.00
Fees [registration, medical fees, etc.]	100.00
Books and Supplies	75.00
Room [two in room]	175.00
Board	510.00
Laundry	40.00
TOTAL	<u>\$1,350.00</u>

Scholarships and Loans _____

A number of tuition scholarships (\$350.00 per year) are available in the Law School. In exceptional cases scholarships covering more than tuition may be awarded. High scholastic standing and qualities of leadership are essential for all scholarship assistance. Need may be considered in making awards covering more than tuition. University loan funds are also available and may be repaid over a period of time after graduation.

Employment Opportunities _____

Opportunities for part-time employment are sometimes available. A number of positions in the Law Library are filled by law students and several outstanding students are employed to assist faculty members. The University maintains an office to assist students in finding employment.



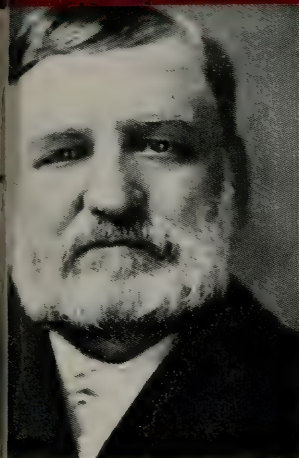
Graduation is the climax of three years of hard, profitable, and for the most part, enjoyable work. Each June another class of Law School seniors receives the Bachelor of Laws degree and prepares to depart. Most of them will proceed to the states where they intend to practice and make preparations to take the state bar examination. With a degree from Duke, they feel assured that this last hurdle to becoming a practicing lawyer can be successfully overcome.

With each graduating senior go memories of years well spent, new and lasting friendships with other students and with members of the Law School faculty, and the knowledge and training that creates a successful lawyer.

Once a year, usually when the University observes Homecoming and the football team meets a traditional rival, the Law School observes Law Day. Then law alumni return from many states to revisit the campus, renew friendships, and inspect the work, appearance, and hospitality of later classes of aspiring lawyers.



TRADITIONAL HOMBURGS AND CANES CHARACTERIZE STUDENT GARB ON LAW DAY AND AT HOMECOMING WHEN MANY OF THE SCHOOL'S ALUMNI RETURN FOR AN ANNUAL VISIT TO THE CAMPUS.



DEAN MORDECAI



TRINITY COLLEGE IN RANDOLPH COUNTY ABOUT 1860

History of the Law School

Duke University is built around Trinity College, which goes back in its origin to the year 1838-1839, when Union Institute was founded. The teaching of law as part of a cultural education constituted the beginning of legal instruction in this institution in 1850. Professional education for law began in 1868 when the Department of Law of Trinity College was established.

The modern School of Law was founded in 1904 upon an endowment established by James B. and Benjamin N. Duke. Dr. Samuel Fox Mordecai, distinguished lawyer, scholar and teacher, organized the School and was its Dean until his death in 1927. The establishment of this School set a new standard in southern legal education, it being the first law school in the area to require the completion of two years of college work as an entrance requirement. The case method was used as the basis of instruction; and in this respect also the School was a pioneer in law-school method in this area. The completion of three years resident study was required for the LL.B. degree.

As a result of the foundation of Duke University in 1924, the School of Law has shared in the expansion incident thereto. In 1930, with the removal of the Law School to the newly completed Law Building, and the appointment of a greatly increased faculty and staff, the Law School entered upon a new stage. It was reorganized and the curriculum and professional activities much broadened, with the purpose of creating in this southeastern area a progressive law school of national scope and character.

Throughout its history the School has emphasized quality rather than quantity of student body. Individuality of instruction is a mark of the School. The study of law at Duke is legal education through the medium of close personal contact between teacher and student, small classes, seminars and discussion groups.

Since the reorganization of the School in 1930, the following persons have served as Dean: Justin Miller, 1930-1934; H. Claude Horack, 1934-1947; Harold Shepherd, 1947-1949; Charles L. B. Lowndes, (Acting Dean) 1949-1950; and Joseph A. McClain, Jr., since 1950.





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